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A compilation of five lectures delivered at a workshop for college administrators cosponsored by the Western Interstate Commission for Higher Education and the Center for Higher Education, July 1960. The focus of the institute was on a new forefront of research: Understanding the whole student. The papers emphasize the crucial importance of understanding students as complicated human beings, operating in equally complex social-psychological environments.

The text concludes with a summary statement by Leonard Goodstein, director of the Counseling Center, University of Iowa. Appendixes consist of four case studies and accompanying summaries of the deliberations of four discussion groups, a review of research methodology and research instruments by Paul Heist and George Yonge, and a bibliography of approximately 150 titles.

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Institute Lectures Considering Recent Research on College Students' Motivation, Values and Attitudes, and Campus Cultures

Co-sponsored by

THE WESTERN INTERSTATE COMMISSION FOR HIGHER EDUCATION
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THE CENTER FOR HIGHER EDUCATION
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RESEARCH ON COLLEGE STUDENTS

Institute Lectures Considering Recent Research on College Students' Motivation, Values and Attitudes, and Campus Cultures

HALL T. SPRAGUE, Editor

Co-sponsored by
THE WESTERN INTERSTATE COMMISSION
FOR HIGHER EDUCATION
Boulder, Colorado
and
THE CENTER FOR HIGHER EDUCATION
Berkeley, California

December, 1960

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CONTRIBUTORS

Leonard Goodstein, Director, Counseling Center, University of Iowa, Iowa City

Paul Heist, Associate Research Psychologist, Center for the Study of Higher Education, Berkeley

Dorothy Knoell, Consultant in State College Curricula, California Department of Education, Sacramento

T. R. McConnell, Director, Center for the Study of Higher Education, Berkeley

Theodore Newcomb, Professor of Psychology, University of Michigan, Ann Arbor

George Stern, Professor of Psychology, Syracuse University, Syracuse

Martin Trow, Associate Research Sociologist, Center for the Study of Higher Education, Berkeley

Paul Webster, Associate Research Psychologist, Center for the Study of Higher Education, Berkeley

George Yonge, Center for the Study of Higher Education, Berkeley

NOTE ON SOURCES

All bibliographical references in the original lectures have been included in the appropriate section of the bibliography beginning on page 177. In each lecture, sufficient identification of books and articles referred to has been given to permit the reader to locate the full citation in the bibliography.

PREFACE

This volume contains lectures about research on college students given at a Summer Institute at the University of California, Berkeley, July 26-28, 1960. The Institute was co-sponsored by the Western Interstate Commission for Higher Education, Boulder, Colorado, and the Center for the Study of Higher Education, Berkeley, California.

This is the second Research Institute which the Commission has co-sponsored; in 1959, we cooperated with Stanford University on a week-long Institute covering many areas of institutional research. This year, we were fortunate in working with the Center for the Study of Higher Education in Berkeley, whose staff includes several outstanding researchers in this field. Richard Axt and I from the Commission staff and Leland Medsker and Paul Heist from the Center devised the Institute design. Dr. Medsker deserves a special word of gratitude for having handled local arrangements at the University of California, all of which were beyond expectations.

Our purpose in sponsoring this Institute was two fold: we wanted to introduce Western college administrators to several kinds of research on students which now have or soon will have important implications for their programs; and we wanted to give them a chance to design their own institutional research programs through a case study approach.

More than 80 persons attended the Institute, most of them from Western colleges and universities. They heard the lectures contained in this volume and, after each one, discussed them with participants from institutions similar to their own. On the last full day of the Institute, they reviewed four case study institutions and designed student research programs for each.

Appendix A contains the four case studies and accompanying research reports. The reports are summaries of the deliberations of four discussion groups. Each group attempted to draw up a list of self-study research projects which it felt its institution should undertake, with particular focus on students. Thus, group A studied and reported on Rocky Mount University, group B studied and reported on South Coast Junior College, and so forth. (A striking tribute to the involvement of one of these groups followed Miss Swift's report of the Kingston College discussion. A "minority report" was cast by the leader of Kingston's "collegiate subculture" (see lecture by Trow) in the form of a college song, "Thy Kingston Come." The words are not printed here for fear of reprisal by Cornell alumni who would recognize the metre of "Far Above Cayuga's Waters." They will be mailed, in an unmarked wrapper, to anyone who desires them.)

The reports are not meant to describe "ideal" research programs for these colleges. They are simply the product of a few hours' discussion by several college administrators after a brief reading of the case study descriptions. Judged in that light, they indicate a substantial awareness of the need for research on students at institutions of higher education.

Appendix B contains material prepared by Paul Heist and George Yonge from the Center staff. It fulfills, we hope, a request made by several Institute participants for a layman's introduction to student research issues, methodology, and instruments. It is one attempt to bridge the gap between researchers and educators.

We are very much indebted to the lecturers for their creation of the bibliography, Appendix C; it contains, in addition to works of a general interest in this field, all of the volumes to which reference is made in the lectures.

The bibliography was organized and brought up to date by Mrs. Virginia Boucher. Final copy was typed by Miss Donna Leach. This volume was designed and prepared for the printer by Mrs. Lura Elliott.

It is our hope that these proceedings will contribute in some small way to strengthening higher education in the West and elsewhere.

Hall T. Sprague
Staff Associate
Western Interstate Commission
for Higher Education

INTRODUCTION

T. R. McCONNELL, Director
The Center for the Study of Higher Education
University of California
Berkeley, California

Because I was on leave last year in the real ivory tower, the Center for Advanced Study in the Behavioral Sciences, the Berkeley Center's part of the planning for this conference was done by my associates, Dr. L. L. Medsker, vice-chairman of the Center, and Dr. Paul A. Heist.

Because of my own background, it is difficult for me to pass the opportunity to make just one or two comments on institutional research. I take it that if we are wise, we will not do research for the faculty or for the administration or for the dean of students, but that we will do research with the faculty, or with the administration, or with the staff in the parts of the institution in which the problems are being studied. I have rather deep convictions about this. I think it is obvious that professional and technical staff familiar with the design and analysis of educational investigations is necessary, but from my experience I should say that it is extremely important for the faculty, or other staff members, to participate in planning, and so far as they can, in conducting, interpreting, and reporting the studies. Perhaps a reminiscence or two won't be amiss.

When I attended a dinner meeting at which members of the science faculties at Minnesota were invited to hear the report of an experiment in the zoology department on the value of laboratory drawings, the presentation was made primarily by faculty members from the department. Dr. Palmer Johnson, a distinguished researcher in the School of Education, made a technical presentation briefly and cogently, but the major presentation of the problem and the way in which arose, the findings, and what the department was going to do about the findings, was made by members of the faculty in zoology. That night the dean of the School of Pharmacy came up after the session and said, "As I sat listening to these presentations, I began to wonder whether all of our laboratory exercises in the School of Pharmacy are really productive. Do you suppose it is possible for us to do some research in the evaluation of our laboratory procedures?" And that was the origin of another intensive investigation, again, professionally directed by Dr. Johnson with the intimate cooperation and participation, where appropriate, of the faculty of the School of Pharmacy. It seems to me that it is particularly important for the faculty to participate in drawing the implications of such investigations for educational theory or educational practice.

The professional staff for institutional research may be found in many departments of a college or university. The departments of Sociology, Economics, Psychology, Education, and still others in the university usually have people who are especially competent in particular kinds of investigations or who would make especially productive members of a research team. In this sense, every college or every university has resources in professional staff to draw upon that are rather rich and varied. Many institutions do not take advantage of these resources.

I am particularly pleased that this conference is to be concerned with research concerning students. I was asked recently if I would speak at the University of Texas at a conference of colleges and universities in that state, and was invited to suggest my own topic. I suggested "The Rediscovery of the Student." That, I think, is almost the task we have before us--the rediscovery of the student. When one is concerned with students and their development he is concerned with *all aspects of the educational enterprise.*

We know far too little about the bases for selection and admission. It is true that Dr. Benjamin Bloom and an associate of the University of Chicago have discovered that with appropriate corrections for differences in grading standards in secondary schools, it is possible to get a correlation of .70 or above between secondary school grades and first-year college grades. But we really don't know very much about the educational outcomes with which we are to be concerned and which we ought to predict, simply because faculties have never taken the time to define those outcomes. Until that definition has been made, it will be impossible for us to do an intelligent job of prediction, and of selection.

We know relatively little about the dynamics of the environment and its subcultures. Several people, fortunately, are now at work on this. Dr. Pace of Syracuse and Dr. Stern of Syracuse--Dr. Stern is to speak here--have been at work on methods of characterizing the dominant environment of colleges and universities. And Dr. Pace is now turning to means of characterizing the subcultures that may exist within the whole. Members of the staff of the Center for the Study of Higher Education are busily at work on this problem too, and still others are engaged in this kind of investigation.

But since we don't know very much about students, and since we don't know very much about college environments and their impact on students, we don't know how to bring students and colleges together. Presumably, there is a college which would be a productive place for one student, but not for another. We also don't know very much in complex universities or large and complex colleges about adapting the environment to the individual student.

We are still in the dark about the effects of formal and informal groups on student development. Here, I take it, Dr. Newcomb and Dr. Trow are particularly concerned and particularly knowledgeable. And it is to be hoped that more and more the effect of peer groups will become a subject of investigation. I suspect that the non-classroom influences in an institution are more effective in changing students than the classroom activities.

Instruction itself goes on in bland ignorance of the values and attitudes or personality structures of students that determine their response to teaching. Here again a member of our conference, Dr. Stern, has been studying the effects of different methods of instruction on students of different personality characteristics.

Thus, studies of students are now mushrooming in number, and this is fortunate. I am reminded by the presence this evening of Dr. Lester Anderson, vice-chancellor of the University of Buffalo, that he undertook significant studies of students years ago. One of these was an intensive study of college-going and the factors related to it in Minnesota. (Dr. J. G. Darley, until recently associate dean of the graduate school at the University of Minnesota, is completing a current study of college-going in that state for the Center for the Study of Higher Education.) Dr. Anderson also made a study of students' educational goals and the extent to which during the first year in college, at least, they felt their purposes had been to some degree achieved. This, if you please, was a forerunner of a part of the Cornell values study which you have all seen recently, and some of which we are duplicating in certain studies at the Center.

In the past, we have more often than not failed to use what we learned. In the future let us be careful to do something about what we discover. And I am convinced that we are more likely to do something if the faculties or the other members of the staff of colleges and universities participate intimately in the organization, conduct, and interpretation of investigations of the sort I have mentioned.

EXPLOITING STUDENT RESOURCES*

THEODORE NEWCOMB
Professor of Psychology
University of Michigan
Ann Arbor, Michigan

I. THE PROBLEM

Not long ago a group of social scientists met to consider a set of problems which might be summarized in the question, "How can we find out what happens to students in American colleges and universities, and why?" Being social scientists, we soon found ourselves "categorizing" the "sources of variance" in "institutional output." What this really meant was that a comparatively few kinds of things seem to be mainly responsible for the enormous differences that one can observe among students -- within a given college or among many -- as they leave ivied walls and cloistered halls. Emerging students are different, we guessed, because they were different on first coming to college, because they have met different kinds of faculty-administration influence, and because they have done different kinds of things to each other while in college. (These three factors may be labeled selection, tutelage, and peer influence.)

Having categorized the sources of differentiation, we then went on to rank them in terms of presumed importance. Somewhat to our own surprise, we found ourselves virtually unanimous. Selection, we thought (i.e., all the things that students bring with them on arriving at college), more fully accounts for the final product than either of the other sets of factors. Peer influences we rated second. Though most of us were college professors, we had no sense that we were, by assigning these relative weights, necessarily denigrating our own roles as educators. It is possible that selection makes

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*Adapted from a chapter in *The Study of College Peer Groups: Problems and Prospects for Research*, edited by T. M. Newcomb and E. K. Wilson. Social Science Research Council, 1961.

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a difference not just because students on leaving are very much like the same students on entering college; perhaps also--or even instead--selection is important because some student characteristics, already present on entrance, make their possessors more likely to become different--in which case professors may provide the necessary mechanisms of change. As to our second-rated set of factors, peer influence is not necessarily opposed to faculty influence; it is at least possible that the latter is mediated and reinforced by the former--in which case, again, the professor's role is essential even if not sufficient.

Whatever the facts of the matter, there is reason enough to conclude that on the contemporary American scene the effects of student peer groups are sufficiently important to justify the serious attention of social scientists. Everyday observation, theoretical expectation, and empirical investigation all point to their importance.

II. THEORY AND EVIDENCE

The theoretical basis for assuming that peer group effects should be rather considerable are not particularly abstruse. Essentially, the argument in its general form runs as follows.

People respond to a situation not necessarily as it "really" is but as they perceive it to be. And they perceive all but the simplest situations--especially human ones--not as they have been pre-ordained, by their physiological make-up, to perceive them but as they have learned to do so. The matter of learning to perceive--of acquiring habits of perceiving in one way things that might be (and often are, by other people) perceived differently, is a very complex one indeed, but nearly all psychologists would agree that such habits are learned as a result of the successes and failures that follow from actions based upon "right" and "wrong" ways of perceiving situations. The notions of success and failure assume, of course, that individuals have motives--whether standard, universal ones or idiosyncratic ones--in terms of which success and failure are experienced.

There are powerful reasons why groups have much to do with individuals' successes and failures, and thus with the kinds of perceptual habits that they acquire. This is true, first, because groups so often have it in their power to reward and to punish--as by applause or shame, or by the according or withholding of social status or of worldly goods. Group standards often seem arbitrary to members of other groups--and indeed they are and must be, in the literal sense, for in many areas of life it is the fact of consensuality, not its content, that matters. One needs to know, dependably and in advance, what kinds of behavior will and will not be rewarded. Such standards come to have the psychological impact of ineluctability, and are sometimes referred to as "social reality."

Successes and failures are matters of group life, second, because human beings want and need each other. (Perhaps I should add that groups may be small as well as large, informal as well as formal; a pair of lovers, for example, constitutes a group in almost every important sense of the term.) If we want and need other people, then their responses to us are potentially rewarding or punishing--regardless of whether our wants represent spontaneous affiliativeness or the calculated instrumental use of others. In either case, group members develop sets of consensual expectations about each other (e.g., husband, wife, and child all want and expect husband-like, wife-like, and child-like behavior from the appropriate family members, as well as wanting and expecting certain similar, rather than differentiated, behaviors from all).

For the purposes of the present argument, the outcomes of these two bases of group power over its individual members are the same: individual members develop attitudes toward each other--most commonly favorable ones;* and they develop consensual sets of expectations regarding each others' behavior and regarding important aspects of their common environment, by which their individual expectations of success and failure are guided. Such consensual expectations of each others' behavior are known as norms. Baldly put, groups have power over their members because the same processes of interaction that result in members' feeling favorably toward each other also result, simultaneously, in their adopting norms that enable them to aim at success rather than failure.

The final step of the argument, of course, is that student peer groups, as a special case of a general phenomenon, are subject to the general rules. A plausible case can in fact be made for the assumption that the general rules should apply a fortiori to student groups. College students (particularly in this country, perhaps) meet each other with a ready-made consensuality compounded of needs for independence from parents in a setting where independence is relatively possible, and of strivings for adult status in a world that treats them half as children. These initial bases of consensus, together with the fact that students are inevitably thrown together in dining rooms, classes, and dormitories, inevitably result--and often rather quickly--in the joint processes according to which groups acquire power over their members.

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*The prevalence of favorable over unfavorable interpersonal attitudes, as outcomes of interaction, is by no means limited to voluntarily associating group members; witness the very common fact that most parents and children, the world around, have predominantly favorable attitudes toward one another, though they had nothing to do with choosing each other in the first place. Professor George Homans' observation (1950) that interaction and interpersonal attraction tend to increase together is, in general terms, a very dependable one.

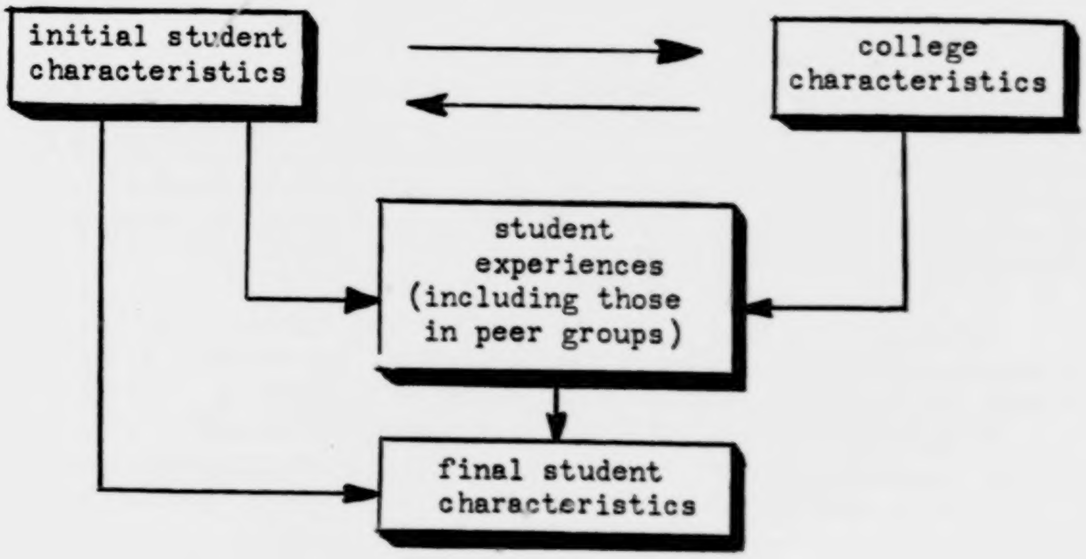
The empirical grounds for concluding that substantial peer group effects in fact occur in contemporary American colleges are not as solid as many of us would like to believe. Within the bounds of student peer group studies, the following conclusions seem justified. (1) Under certain conditions (as noted later) there have been several demonstrations of marked changes in attitude, of consensual nature, during college or professional-school years. (Cf. Jacob, 1957; Newcomb, 1943; Sanford et al, 1956; Merton et al, 1957.) (2) A much larger set of studies fails to show any such changes (see, in particular, Jacob's review, 1957). Almost without exception, however, these studies have made no attempt to study differentiated peer groups. Their data have generally come from samples (more rarely, whole populations) of certain college classes, with no attention to group membership beyond the assumption that entire classes, or even entire student bodies, constitute membership groups. (3) Many and probably most of this larger body of studies have, quite understandably, concentrated upon the kinds of attitude changes that educators consider desirable. As an educator, I consider it deplorable that some of the kinds of changes that I think should be occurring in contemporary American colleges are not, apparently, occurring. This conclusion--if it be justified--is, however, almost irrelevant to the question of the nature and extent of college peer group influences. Here, as elsewhere, the week-day job of social scientists is to discover and to understand what is in fact going on, leaving till Sundays and holidays the delights of personal evaluation.

In sum, I believe that the theoretical reasons for expecting important peer group effects within American colleges are very convincing, and that the expectations have been well supported when they have been put to the proper tests. I shall use much of the remainder of this paper to suggest certain conditions of peer group influence that have emerged, or hypothetically would emerge, from such "proper tests."

III. A FRAMEWORK

It often happens, particularly in the world of human affairs, that the consequences of any event are more fully understood if viewed in the light of the circumstances, of which that event itself is a consequence, than by viewing the event as "uncaused" (though for many purposes this procedure is unnecessary or even impossible). The study of peer groups is a case in point: peer group formation is an outcome of antecedent events; the nature of members' experiences, and thus the effects of those experiences, may be profoundly influenced by the circumstances attending the group's emergence. And so (in the language of contemporary social scientists) it is necessary to consider peer groups, alternately, as dependent and as independent phenomena.

I may as well warn the reader in advance that there are yet other complexities in store for him. There are "interaction effects" all over the place. That is, the nature of student peer group experience is sure to be influenced by the various factors categorized as selective, and these in turn are influenced by and (in time) they also influence both the actual and the perceived nature of the college itself. In very direct ways, furthermore, various kinds of institutional arrangements--e.g., student living arrangements--influence peer group formation. The following schematic diagram, in which arrows indicate presumed directions of influence, will suggest the kinds of interaction effects which must be taken into account.


initial student characteristics
college characteristics
student experiences (including those in peer groups)
final student characteristics

SCHEMATIC DIAGRAM ILLUSTRATING INTERDEPENDENT INFLUENCES UPON FINAL STUDENT CHARACTERISTICS

The diagram suggests the framework within which I shall examine some student peer group effects. Within such a framework, at the heart of which is "student experiences" and in particular peer group experiences, I shall look into the question of how peer group membership influences the college product.

IV. SOME CONDITIONS OF PEER GROUP FORMATION

It is of course "natural" for people with common interests to associate with one another, and it is a truism that, in our own society at least, not only early but also late adolescents (including most college students) seem to have strong needs for acceptance by age and sex peers. The truism leaves unexplained, however, the entire matter of selection. Even in very small colleges, not every one associates with equal frequency or with equal intensity with all of his peers. There are, moreover, wide differences among individuals; some are under- and some over-involved, in terms of local norms. Furthermore, there are many possible bases for peer group formation, ranging from chance propinquity through more or less casual common interests to shared concerns of great moment. And so, in order to gain our primary objective of understanding the effects of peer group experience, we must examine such specific questions as why it is that particular peer groups get formed in the first place. I am, of course, making the social scientist's usual assumption that things happen in orderly rather than in "uncaused" ways, and that, in any college community at any given time, if certain conditions had been different the consequences for peer group formation would have been different.

Three kinds of factors may be considered of primary importance as independent--i.e., as contributing to the formation of particular peer groups.

Pre-college acquaintance. Particularly during early college experience, previous acquaintance, especially as established in secondary schools, may form the basis of college peer groups. One study of high school seniors' preferences among colleges (Coleman and Rossi, 1960) found that a small proportion of high school friends hoped to attend the same college. Neither this study nor any other known to me, however, provides much information as to the subsequent fate of pre-college friendships. It seems probable that many if not most of them are superseded by others developed in college with previously unknown persons. In the presumably rare cases where they do persist through a significant proportion of the college years, it seems more likely that they reinforce existing attitudes and values of the individuals involved than that they mediate new ones acquired through college experience.

Propinquity. One cannot very well develop peer group relationships with persons whom one has never met. Neither does one develop them with all of the persons whom one has met. But propinquity determines the probability of any two persons' meeting and, in particular, early propinquity in college--when most other individuals are relatively indistinguishable, since most of them are strangers--determines the probability of early meeting. This basic statement of statistical probabilities, together with a rather basic psychological consideration, has important consequences for peer group formation. This consideration, somewhat oversimply, is that a currently known source of reward is not likely to be valued less than an alternative whose reward value is less certain. (Cf. G. Murphy, 1947, on "canalization.") Existing sources of reward enjoy a kind of squatter's right, and peer group acceptance is likely to be rewarding. This principle, the consequences of which are in a certain sense conservative, must of course compete with other and sometimes overriding principles, and therefore describes a probable rather than a required state of affairs. But the two kinds of probabilities, together, result in a considerably-greater-than-chance frequency of persisting peer group relationships that originated in "chance" encounters facilitated by propinquity, as in dormitory residence or classroom attendance.

In view of the fact that marriage rates--even within a single city--vary directly with residential propinquity of marriage partners, (Cf. Bosaard, 1932), we should scarcely expect that the formation of less intimate peer group relationships would be immune to the same considerations, and the known facts support the expectation. Festinger _et al_ (1950) for example, have shown that in a housing project for married students the closest interpersonal relationships (in a statistical sense) developed not merely on the part of those whose apartment entrances faced the same court, but also, in particular, among those who used the same stairways and other facilities. A more recent investigation (Newcomb, 1960) shows that, even within a small, two-floor house accommodating only 17 students, there were significantly more close relationships among the eight men on one floor and among the nine men on the other than between men on the different floors, after several months of acquaintance. Roommates, whose proximity to each other was greatest of all, were particularly prone to develop close relationships.*

Insofar as we are interested in the study of formal peer groups (which are much easier to identify than informal ones), it seems clear, from these and other findings, that they are likely to be found wherever local arrangements--of living, dining, studying, engaging in student activities--result in very frequent associations among a given group of students. Not all of those whose associations with each other are frequent will necessarily be subject--and certainly not in equal degrees--to the effects of the norms that inevitably develop under such conditions, but a large proportion of those who are influenced by such norms can probably be thus discovered.

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*The finding concerning same-floor and different-floor relationships holds even when roommates, whose relationships were generally close, were excluded from consideration.... It should be added that all of these 17 men were total strangers to each other on entering the house, and they had nothing at all to do with the choice of their own roommates.

Similarity of attitudes and interests. Birds of a feather do flock together, and the kind of feathering that seems to be most essential for the human species is clearly marked by common interests. This truism both rests upon and illustrates some crucial principles concerning human interaction. People are most likely to interact--and thus, in terms of probabilities, to develop close relationships--when shared interest in some aspect of their common environment brings them together. The earlier principle that interaction tends to create consensual attitudes should not obscure the equally important one that interaction tends to begin on the basis of existing interests that are shared. The two principles, together, imply that interaction may lead to new (and often widening) kinds of shared interests.

Contiguity and common interests (or at least assumed common) together would seem to account for the beginning of most peer group relationships. An initial basis may of course be provided by the common features of the shared environment, but the selective association that commonly occurs within large groups, all of whose members have this initial basis, is likely to be based upon shared interests that are not inherent in the immediate situation--like preferred sports, hobbies, or tastes in music or sex partners. In my own study of the process of acquaintance on the part of small populations of college men, common interests in sports or college majors often served as a basis for early clique formation, but these did not necessarily persist; changes tended to occur with further opportunity to explore each others' interests. Closeness of interpersonal relationships after four months of acquaintance was in many (though not all) cases determined more by sharing of general values (religious, perhaps, or aesthetic) than by more specific interests held in common.

The common interests that are so essential to the formation of peer groups may or may not extend beyond those which students bring with them to college, or beyond those which they share with their contemporaries outside of college. If not, the consequences of membership in such groups may be quite unrelated--or even opposed--to the distinctive objectives of higher education, as commonly assumed by educators. I suppose no one really knows how generally it is true that peer group effects are essentially irrelevant, in this sense, on the contemporary American scene. In the following section I shall discuss some of the conditions under which such irrelevant outcomes most probably occur.

Meanwhile, to pursue the question of how common interests contribute to the formation of student peer groups, it is well to remember that the interests of groups, like those of individuals, may change. There is a well-known principle in psychology according to which motives initially instrumental to the gratification of some other, overriding motive may take on a life of their own, independently of the goal to which it was at first subsidiary.* Means often become ends. An analogous principle may be applied to groups. A group already characterized by consensuality of interests and attitudes, and by interpersonal attitudes that are favorable, may persist as a group on the basis of the latter set of attitudes even though the former set has become dissipated. A group that has acquired considerable interpersonal solidarity may prove to be autonomous, in this sense, but it does not follow that a subsequent basis of consensuality can be dispensed with entirely. If the originally common interests have disappeared, they tend to be replaced by others, or if not interpersonal solidarity is likely to decline, leaving nothing to hold the group together. The social psychological fact seems to be that group continuity is fostered by high levels of consensuality of both of two kinds: favorable attitudes toward each other, and similar attitudes toward things of common importance--though most groups can tolerate less than a perfectly solid front.

In any case, the educator who despairs at the irrelevancies of student peer group influences may take heart over the fact that yesterday's poisonous irrelevancy may, in the same group, become today's relevant meat. He may even anticipate that, as students reassort themselves, old groups giving way to new, some of the emerging groups will form around his favorite relevancies. He may, infact, regard such possibilities as special challenges to his educational skills.

V. SOME CONDITIONS OF PEER GROUP INFLUENCE

As I have already tried to show, it is students' attitudes--rather than their general skills, or specific capacities, or basic personality characteristics--that are most likely to be directly influenced by peer group membership. Let me first indicate a little more clearly what I mean by that term and then point to some conditions under which attitudinal effects are most likely to take place.

Attitudes, as social psychologists commonly use the term, refer to the ways in which an individual has learned to assess things with which he is more or less familiar. "Things" include any entity--cabbages or kings or concepts--that he recognizes and distinguishes from other entities. Assessment refers both to the qualities that he attributes to the thing in question and to his evaluation of it, in view of these qualities--evaluates, that is, in ways like liking, fearing, approving, or their opposities. We generally think of attitudes as varying in intensity, or strength, in sign (favorable vs. unfavorable), and in generality (i.e., the inclusiveness of the entity to which they refer;

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*Among various formulations of this principle, that of Professor G.W. Allport (1937) has perhaps been most influential; he uses the term "functional autonomy."

one may have attitudes toward a specific man, toward men in general, or toward human beings in general). We often refer to highly generalized attitudes, especially toward non-concrete entities, as values.

Insofar as groups have power over their members, I have argued, it is because two processes tend to occur together, as group members continue to interact. Members become more favorably disposed to each other, and they come to adopt as their own certain group-shared attitudes, or norms, and to feel that those norms are right and proper. Both of these consequences (placing a measure of trust in others, and accepting their assessment of things) involve, in important ways, the yielding of power over oneself to others. But it is the second--which I have described as the sharing in group norms--that is of primary interest as an outcome of educational experience.

The import of these considerations seems to me to be as follows. Insofar as we are interested in what college experience does to students' attitudes we must, because of the nature of attitude formation and change, be interested in the groups to which students (wittingly or not) yield power over their own attitudes. Most attitudes--and particularly those in which educators are interested--are, as social psychologists like to say, anchored in group membership. This statement, let me hasten to add, in no way represents an advocacy of conformity, as opposed to personal independence and critical-mindedness. The latter represents a kind of value (highly prized by most social psychologists, incidentally) which, like most others, is nourished by group support, however narrowly selective. The assertion that, as a matter of empirical observation, values and other kinds of attitudes are nourished and even created via group membership carries no implication that any given instance of the general phenomenon is to be applauded or decried.

Insofar as the propostition is correct, however, it is heavy with implications for educators: How can we direct such kinds of influences in accordance with--rather than irrelevantly or in opposition to--our educational objectives? This question is really a double-headed one. It invites both scientific and "applied" replies--i.e., both statements of conditions under which the presumed effects are most likely to occur and prescriptions for creating those conditions. I shall touch only lightly on the latter.

At least four conditions that facilitate student peer groups' influence upon their members' attitudes appear to be well enough established to deserve mention. No one of them is an essential condition; perhaps any single one of them, under exactly the right circumstances, might prove effective in the absence of all of the others. Most commonly, however, several or all of these conditions exist together when marked effects have been noted.

Perhaps the most obvious of these conditions has to do with group size. Membership in very large populations is not likely of itself, to bring about the strong interpersonal attitudes that are so important an ingredient in peer group effects upon attitudes. Small groups, in which such interpersonal relationships can be established, often mediate the attitudes for which a larger population (like "the college") stands, but membership in the latter without the former's mediation would probably not be very effective. From the point of view of formal arrangements which result in group formation, however, relatively large groups have the advantage of making it possible for individuals to be selective in their more intimate associations. From this point of view, the formal group should not be so large that most of its members cannot recognize one another, nor yet so small as to discourage the formation within it of spontaneously formed, congenial subgroups. The combination of strong interpersonal attitudes engendered by the latter, and the strength of support provided by the more inclusive group of which the subgroup is a representative, is often an effective one.*

A second condition involves relative homogeneity of group members. Homogeneity of age, sex, social class, or religious affiliation contributes to effective peer group influence primarily because of the homogeneity of attitudes that tends to go along with such similarities. The more readily observable forms of similarity without their attitudinal counterparts will hardly suffice for the formation of effective groups. The fact that existing homogeneity of attitudes is so important to group solidarity has, of course, implications of conservatism: if group solidarity depends upon the similarity of members' attitudes, its continuing solidarity is likely to be threatened by lessened similarity in those attitudes. But the same fact also provides the possibility of exactly the reverse. As the late Professor Kurt Lewin used to say, apropos of the effectiveness of "group decision" under certain conditions, "it is sometimes easier to change the attitudes of an entire group than of a single individual"--simply because group support may be mobilized for change as well as against it. At any rate, if a group is not relatively homogeneous with regard to some existing attitudes of importance to its members, it will not have much power to change its members' attitudes.

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*Witness, for example, the colleges within Oxford and Cambridge Universities, the Houses as Harvard and Yale, and small colleges like Antioch, Bennington, Reed, at all of which formal arrangements have resulted in groups of a few hundred that have proven capable of arousing effective group loyalties.

A third condition, relative isolation from groups having divergent group norms, is closely related to the second. Either the fact or the illusion of a membership homogeneous in attitudes may serve to strengthen the conviction that those attitudes are "right." It is communicative rather than physical isolation, however, that I have in mind. In a college community which I once studied from the point of view of freshman-to-senior attitude change (1943), I found no students so untouched by the prevalent patterns of decreasing political conservatism as those who, together with tiny groups of close friends, were so insulated from the majority of their fellows that they were quite unaware of the dominant trend that was so conspicuous to others.

Let me add, again, that to point to a condition of group effectiveness is not necessarily to approve of it. But whether one approves or not, there are many institutions of higher education, and many kinds of formal student groups within still more of them, whose policies of admission together with their selective drawing power result both in attitudinal homogeneity and communicative isolation. The effects of the combination are indubitably conservative, and also indubitably effective.

A final facilitating condition for peer group effectiveness is also an obvious one: the importance to individual members of the group-supported attitudes. Other things equal, the greater the importance to them of the attitudes for which the group stands the greater the solidarity of the group, regardless of whether the sense of importance preceded or has been engendered by group membership. Again, the implications appear to be conservative, but again they are not necessarily so. It does not necessarily follow, from the fact that group members feel that something is very important, that existing attitudes (even consensual ones) toward it are immutable. It may follow, from the same fact, that its very importance requires accurate assessment of it, and group power may be mobilized toward recognizing new facts or widened perspectives from which changed attitudes follow. If so, the same group influence which previously resisted change now comes to support it.

In sum, groups become more effective influencers of their members under some sets of conditions than under others. The effective combinations of conditions are not infrequently present in contemporary American colleges, whether or not by design of their educational architects. Very often, too, they are not met--and perhaps fortunately so. The educator's objective is not necessarily that of maximizing peer group influence, but rather that of understanding how, when, and why it occurs in order that its effects may be consonant with his purposes.

VI. PEER GROUP INFLUENCE AND EDUCATIONAL OBJECTIVES

I began by mentioning three categories of determinants of our student products: selection, tutelage, and peer influence. Let me now return to these, in somewhat different fashion, by posing this question: How can peer group influence be so directed as to further educational objectives?

It would be folly, I submit, to attempt to plan the effects of any one of the three categories while ignoring the other two. After all, every student is simultaneously influenced by all three, and their effects are presumably interdependent. I shall therefore ask some questions--most of which are beyond my power to answer--about how we might, by taking thought, so plan our procedures of selection and of tutelage that their effects, conjointly with those of peer group influence, might come closer to our hearts' desires.

Let's begin with selection. Selection for what? This is quite a different question from the one that is mostly commonly asked, I believe: selection of what? I'm really not very knowledgeable about what is probably a wide range of selection procedures in different kinds of colleges, but I have the impression that there is a good deal of competition to attract what is essentially one kind of student--the bright kind. Frankly, I like bright students; I prefer them to dull ones, and I've never found a colleague who didn't feel the same way about it. No wonder that we find a mad scramble for bright students: even though different colleges presumably have quite different educational objectives, their teachers have a single scale for evaluating students. If, for example, Harvard, Cal Tech, and Swarthmore all have identical objectives, then I suppose it is proper that they should employ identical selective procedures. I suspect, however, that their stated objectives vary a good deal more than their selection.

The basic difference between the questions "selection for what?" and "selection of what?" is this, I think. The latter refers to what students have already got, while the former refers also to what they might achieve. (It's perfectly true, of course, that what they've already got is the best single predictor we have as to their future achievement. But we all know that it isn't a good enough predictor, even if all colleges had the same objectives.) Pursuing this distinction a little further, I think the "of what" criterion tends to carry the implication that if we can only select students who are bright enough then their subsequent achievement will be satisfactory almost regardless of what happens to them in college. (I have, in fact, heard many college teachers say exactly this--and they aren't trying to be cynical, either.) And this brings me back to my central theme of peer group influence. If it's true that such influence is relatively powerful, then it refers to important effects that occur in college and that are not predetermined by pre-college brightness.

I am trying to make the points that things that happen in college can be important; that among these things peer group effects can be particularly so; and that selection has something to do with whether peer group effects contribute to educational objectives. Before I get more specific about this, let me add that the third category, tutelage, also has something to do with it, and that I include in this category certain kinds of administrative arrangements. There are two things, primarily, that I would ask of academic-administrative tutelage if desirable kinds of peer group influence are to be fostered: that students have some exciting experiences during their academic pursuits, and that they share such experiences with peers whom they know well enough to have shared many other kinds of important experiences with them. If academic and intellectual excitement is introduced into the common experience of peer groups, all their power and influence can be brought to bear upon academic and intellectual concerns.

The kinds of administrative arrangements that are likely to have such results are not difficult to describe, though they may not be so easy to provide. Many small colleges of a generation or two ago provided them, quite unwittingly. They are such that each individual student finds himself in a human environment that includes persons whom he knows, likes, trusts, and with whom he shares the daily round of intellectual life for the same reasons that he shares with them the daily round of fun, food, and bull sessions. If a group of students who know and like each other and see each other often and informally also have the common experiences of being excited, worried, puzzled, and active about books and professors and laboratories and ideas--then their peer group potential is being directed toward educational objectives, whether they know it or not...I shall not give you any prescription for making these things happen; I want only to say that they happen not capriciously but because certain combinations of conditions invite them to happen. The inviting conditions are probably harder to arrange in large universities and commuting colleges than in small, residential colleges, but even in the former I consider them only difficult, not impossible.

Now let me return to questions of selecting students. For present purposes, there are two criteria to bear in mind: the exploitation of peer group resources, and student development toward whatever the college's educational objectives are. As to the latter, suppose that a college's objectives are the very general ones of widening student's horizons and providing an environment in which each of them can discover where his talents--great or small--can best be applied. In that case, it seems to me, we should not prescribe a high cutting-point on test scores; rather, we should ask researchers like those at the Berkeley Center for the Study of Higher Education to find out for us what are the best predictors of ability to profit by exploratory experience. But if, on the other hand, our objectives are to provide professional or preprofessional training for those who think they have already assessed their own talents, then what we need is good predictors of success in those professional fields. Or if--as is more commonly the case--we aim at both kinds of objectives, and particularly if we are suspicious of premature professional commitment, then we will want to select different students by different criteria. Whether we apply one criterion or several, we ought in any case to know, quite self-consciously, just what we are doing and why.

And, finally, no matter what our single criterion or combination of them, our policies of selection ought to go hand in hand with our planned arrangements for exploiting peer group influence. Most important of these is the set of conditions that determine which students live and eat and play and study together. Such administratively planned groupings should be large enough to provide two conditions: opportunity to select friends on the basis of personal preferences, and some diversity in interests and maturity. And they should be small enough to provide some measure of group identity--small enough, for example, for each member to know the name of every member of the group. Ideally, it seems to me every incoming student would be selected because his present status indicates that he is suitable in terms of a specified educational objective, and with a specified group assignment which takes this objective into account and which is geared into his curricular assignments.

Such a proffered ideal, like many others, may seem artificial and synthetic--and, even if not, perhaps impossible of achievement. My purpose, however, has been not to present a blueprint, but to illustrate what I think are some basic facts of contemporary American colleges. The social-psychological motors of student life are racing, but for the most part they are dis-engaged from the wheels of development toward our educational objectives. We need some new educational engineering, which takes into account the nature of the power than can be exploited, what we want to do with it, and the kinds of raw material with which we can best begin. Any good engineers around?

A RESEARCH ORIENTATION TO SELECTION, ADMISSION AND DIFFERENTIAL EDUCATION

PAUL HEIST and HAROLD WEBSTER
Center for the Study of Higher Education
University of California
Berkeley, California

Several members of the staff at the Center for the Study of Higher Education have at one or more times, addressed themselves to the matter of student body composition, to topics related to admission policies, and to various aspects of student behavior, especially as viewed in an academic context. To judge from a few reactions to our own previous comments, we may as well have been "voices in the wilderness"; but since neither of us has been directly involved in educational planning or in college admissions work, what we suggested might have seemed too far removed from the practical situation. We hasten to add that our role, along with that of other advisers "from the outside" who have crossed the educational horizons of the present day, has been one of raising questions and issues generally in accordance with the background of our own discipline, in the hope that we may give those involved in decision-making a broader basis for both policy and practice.

For various reasons and in a variety of ways, higher education is and will continue to be in a stage of rapid transition. Administrators at many levels are being called upon for new decisions and for leadership in new directions. Over the last several decades the world of business and industry has increasingly sought the aid of specialists from many disciplines in education; for example, social scientists have been employed as consultants on problems of human relations, on executive and employee selection, and for help in other problem areas. Often these experts from the nation's colleges and universities encouraged industrial management to institute experimental programs to study their difficulties and to determine bases for new employment procedures. It seems odd that the same consultants were seldom or never asked to consider problems of administrative tactics and administration-faculty relations in their own institutional bailiwicks or to assist in devising research procedures to study the admission of students, rate and pattern of withdrawals, etc. Needless to say, some research on admissions and withdrawal problems along with predictive studies has been done, chiefly by those personally involved with the everyday problems of selection and admissions, but with concern for relatively few variables, and often the same ones from school to school.

Currently, the situation is considerably different. What we would judge to be important research on college students, on their backgrounds and reasons for going, on their general growth and educational development, is underway in every region of the country. Reports of new projects and requests for some attention to research design and methods of measurement come along month after month. In fact, the need for a variety of additional information about students is well ahead of the methods of measurement and evaluation. It is, of course, questionable that measurement tools in any science are ever at the point of development that an emergency would demand. This also applies to the need for theory which supports research design and which has the essential scope to encompass a broad problem area.

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The study of the student, which has attained renewed emphasis in recent years, has many precedents. The developments most recently giving impetus to current research on student characteristics have been reviewed in a variety of reports in the past two or three years, some of which will be found in the readings submitted for this conference. There are a few threads running through some of this research history which provide a setting for most of the projects underway today.

In the field of psychology, the study of individual differences has a history going back to the previous century. But a good deal of what passes as education even today reveals a great unawareness on the part of many educators of the important differences among human beings. Educational procedures are advocated and a great many instructors teach as if students were essentially of one mold. It seems that much of what might be profitably borrowed from this phase of the psychological discipline, that is, individual differences, remains to come.

Other precedents to the present research include numerous investigations in student personnel work in general, investigations in counseling and therapy, new and improved instruments of measurement, methodological developments in testing, and the resolution of some problems of measurement. For example, the student personnel services have been instrumental in helping us to understand the difficulties in effecting change and the re-education of attitudes in college students; they have also contributed greatly to understanding the factors underlying occupational choice. As much as any single professional group, they have been in the forefront in overcoming opposition to psychological research and in obtaining a variety of measurements on large samples of students on campuses throughout the country. Other researchers, in the areas of psychology and educational psychology, have been constructing scales or tests to improve the measurement of important characteristics. The few scales we mention later in this paper depend upon previous work by contributors from a number of special fields, ranging from psychiatric diagnosis to developmental psychology.

The most fundamental and pertinent ground work underlying recent developments is found in the few intensive studies of student development on a number of campuses. These have been conducted over two decades and are too complex to even describe briefly here, but a rather adequate picture of some of the most important of these contributions could be identified by noting the work of men on the program of this conference.

Personality measurement--prediction versus understanding

For the specialist, "personality measurement" usually implies use of certain kinds of tests such as true-false attitude inventories, measures of the strengths of beliefs, and projective devices. "Personality" measures have been described as "non-intellective," "motivational," and so on, in order to distinguish them from aptitude, achievement, or other "cognitive" or "intellective" measures. For the specialist these labels may serve a useful purpose--for the educator generally, they must certainly be confusing. It has been shown in numerous studies that cognitive characteristics are inextricably confounded with the motivational and affective aspects of the developing personality. In other words, belief, attitude and desire are not independent of ability, aptitude, and achievement, even though the relationships among such characteristics may be complex or obscure. This poses some interesting problems if we wish to improve the educational process so that the general development of the college student as a person receives more attention.

Certain attitudes toward studying and the habits utilized in preparing course work assignments are known to be related to grades obtained. Some kinds of expressed interests, including intellectual interests, are directly related to grades; and some general measures of temperament and personal maturity have small correlations with the academic average. The typical reaction after finding that high school grades and aptitude measure are better predictors of college grades than are these "motivational" measures, however, is to disregard the latter. Two points can be made relative to this: (a) it is possible to improve motivation measures so they will significantly improve the prediction of grades; (b) as they have been used traditionally, grades are hardly worth predicting with greater accuracy, especially if educators increasingly focus their attention upon the problem of the students' general development. In other words, two research strategies evolve: we either can accept grades as the limited criterion of development which it is appropriate to strive to predict, or we can turn our attention to devising better criteria of development. In fact, it might be feasible in some institutions either to improve the evaluative procedures in such a way as to broaden or to enhance the meaning of assigned grades, or else to experiment with other criteria of student development, along with the traditional grade-point-average. Different research strategies will have different consequences in relation to educational philosophy and policy.

If the same effort had been expended on the development of attitude and personality predictors, as was focused on the so-called "intellective" measures during the last 30 years, then we should now have some attitude scores which correlate very well indeed with grades. However, we do not necessarily subscribe to this kind of approach. There is little doubt that predictions of academic performance of a very high level of accuracy could be obtained, permitted all the essential procedures. To predict college grades, we need only to "standardize" predictors which take into account more and more of the subject's history, at the same time standardizing the criterion of academic performance, so that it is more and more congruent with the predicting measures. We submit, however, that such procedures might add very little to our understanding of student development or the overall educational attainments. Understanding a phenomenon implies its predictability, but the converse is not true; predictability is an insufficient condition for understanding. The current emphasis on prediction of behavior in social science may be a healthy one, insofar as it encourages isolation of diverse and reliably measurable aspects of behavior; but it also appears to be a kind of fetish supported by classical philosophy of science. What appears to be needed is more understanding of human behavior, of growth and development, and of the processes of attitude and value change.

A very important aspect of personality measurement has to do with the level of generalization at which the data are interpreted. For example, an investigation might measure subjects for their degree of compulsiveness--using items which reflect the orderliness and promptness of their daily behavior. Or, the interest might instead be centered in a larger syndrome of behavior, known as authoritarianism or stereopathy, which is made up of at least eight different traits, only one of which is compulsivity. Because of modern techniques of test development the subjects might be ordered, from low to high scores, equally well on either a single trait of this syndrome, or on the total syndrome. Several general but basic personality syndromes of considerable interest to psychologists and educators have been delineated within the total personality structure. Independent work by numerous investigators has supported their identification.

There are some important issues which must be considered by those who would like to use general attitude measures among the criteria for admission to college. One issue has to do with the social function of the college. It is known that persons high on general social and emotional maturity are more independent, imaginative, and tolerant of others, and also that they are likely to be more capable and intelligent. If the function of the college is to inculcate and to encourage the development of traits such as independence, imaginative thinking and broadmindedness, then it can be argued that persons low on these characteristics should not be denied admission; if the purpose of the college is primarily to advance the sciences and the arts (we know of no such institution), then the inclusion of such personality measures among admissions criteria might be defended.

In any case, the problem of education for freshmen students already admitted can be attacked more rationally if their level of general maturity of attitudes and values is known. There is now quite a bit of evidence that certain kinds of educational techniques work well or less well, depending on the level of personality development of the students. For example, in actual experiments, highly developed students are capable of more initiative under less supervision, because they are more independent, more imaginative, and so on; but, the more immature students feel that they need to be told exactly what to do (Stern and Cope, 1956). Whether or not personality measures may feasibly be included among admissions criteria, we have suggested that they might be a real help subsequently in differentiating among enrolled students and thus increasing the efficiency of the educational program itself (Heist and Webster, 1960).

The measurement problems per se inherent in the study of educational development are serious and difficult, and they certainly have not all been solved, even though some progress has recently been made toward their solution. Mental test scores are ordinal data, in that they order persons but do not provide a metric which tells us how far apart the subjects are on the underlying continuum. This makes it impossible to compare exactly student A's change during college with student B's, or class C's change with class D's. Nevertheless, change scores can be compared, if they are reliable enough initially, by introducing certain kinds of measurement assumptions. Solutions depend directly upon the development of appropriate definitions of measurement error; some definitions have been tested empirically so that in the case of mental tests one solution is known to be more realistic than others (Lord, F.M., 1959). Therefore, we soon hope to be measuring personality development during college with reasonable exactness.

Student characteristics and admissions policies

The great diversity found in American higher education, in both type and quality of institution and among students in the variety of institutions, need only be referred to here. (Several of the references submitted in the Institute bibliography examine the fact and meaning of this at some length.) Due to the existing diversity, problems of admissions at particular institutions must be dealt with rather specifically. Though the issues may be generally similar across a great many institutions, for a certain number of institutions the issues are unique. Beyond the matter of sheer size and the public-versus-private distinction, the variations in the implicit objectives and purposes of different colleges necessarily require that they receive individual consideration.

A digression relative to the existing diversity may serve illustrative purposes. Most of the research reports in recent years do relatively little to counteract Jacob's (1957) conjecture that the educational impact on the majority of students is rather minimal. Both the results of the Vassar research (Freedman, 1960; Webster, 1958) and more recent findings at the Center at Berkeley (Webster, Freedman and Heist, 1961) show that some students do undergo change, but the number who change in any significant degree is not very large and the reasons for this can generally be traced to factors preceding or lying outside of the immediate academic context. The factors of the institutions as organization, their educational procedures, and the student attitudes and behavior do not, in most cases, provide a combination leading to optimal education or the attainment of stated objectives. If we may assume that critical thinking, aesthetic appreciation, and a greater devotion to learning are possible for much larger numbers of students, then, either the conditions provided for learning or else the learner are found very much wanting.

Looking at the educational environment for a moment, there seems to be little reason for elation. Administrative leadership in colleges and universities only infrequently leads to progressive changes or improvements in the intellectual atmosphere and the promotion of true scholarship within an institution. The conceptualization underlying most decisions appears to be mechanical rather than philosophical, often meeting the demands of immediate problems and lacking in the perspective of long-range policy. One wonders how frequently the objectives of an institution and/or the actual learning and accomplishments of students (measured or unmeasured) are considered in resolving problems and in changing programs. Viewed from the standpoint of the faculty role, provocative and inspirational instruction is conspicously rare. National Merit Scholars, interviewed recently as senior in leading schools throughout the nation, repeatedly spoke of the poor teaching on the part of many faculty and the almost complete absence of effective instruction within some departments. An increasing number of faculty are supposedly becoming involved in improved education for students of superior ability, to judge by the large number of honors programs, honor seminars, and provisions for independent study in a variety of institutions, but the effectiveness of such instruction is generally unknown due to a lack of experimentation and evaluation within such programs.

To match the lack of administrative and educational policy, the inadequate provision of facilities, and the woefully small number of faculty who are both capable of and committed to more effective teaching, the available evidence indicates that the great majority of students enter post-secondary education with attitudes and interests significantly different from those of the small, intellectually motivated minority. It would be unfair to say that the mass of students are not motivated, but the character of their motivation is chiefly ulterior, utilitarian, and pragmatic - directed to more immediate, egocentric, vocational goals. Students probably should not be chided for this limited orientation, since in this respect they are essentially products of our Western society. We would be naive to expect more than this, to look for mature, scholarly individuals where so little in their backgrounds could have nurtured such an orientation. A "sin of omission" can probably be charged to the faculty who do not recognize the diversity in student attitudes and purposes, who do not face up to the major problem of understanding the characteristics of a student body and its pervasive student culture, and who often do not recognize the students' limited motivations in an academic sense. Not to be misunderstood, we should add that we would argue for the merits of a liberal and general education, in the best connotation of the term, for most students, and for objectives which bring to an academic community the satisfactions of knowledge, a greater understanding of life, and the experiences which would awaken and broaden aesthetic sensitivities. Moreover, to bring this about we would harangue administrators and faculty to consider and reconsider the objectives of their educational program, with thought and attention given to the abilities, the attitudes and the major values of their particular students. There seems to be no alternative to such an approach in the light of the present inadequacies. If objectives are to be more than statements in the catalogs and if purposes are to become operational and congruent with the attainment of goals, more discernment must be given to distinguishing student traits and perhaps something should be done to alleviate the impersonalized and lecture-dominated approaches to education, which seem to flourish under conditions of increasing bureaucratization. We hasten to add that we are aware of the apparent anachronism of this admonition in this period of ever more students, larger classes and the televised lectures.

In this paper we will play a speculative game that members of our Center staff have resorted to on occasion. Our own large scale research on student characteristics is far from a state of completion; consequently, a certain amount of data will be used before all the answers are in. We will utilize information obtained from several projects underway, limiting ourselves, however, almost entirely to measures from one instrument for the sake of clarity. There are a variety of existing scales and inventories that could well serve the purpose of illustrating diversity and its implications. We are using these particular data because we are well acquainted with them and to avoid possible overlap with material that may be presented by other speakers on the program.

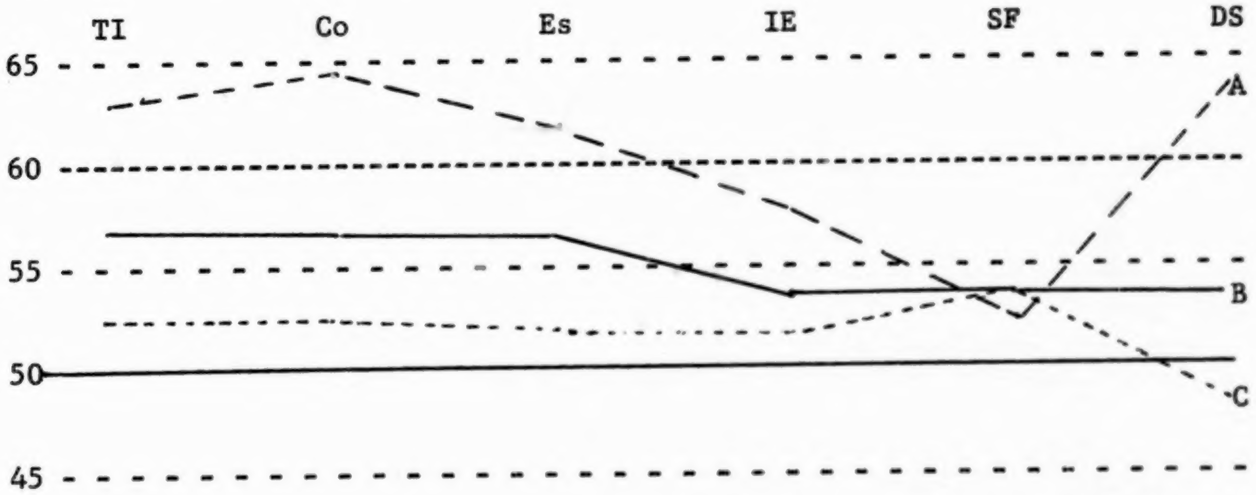

Figure 1. Standard score personality profiles representing the mean scores of entering students in three different four-year coeducational colleges, A, B and C. (The standard scores are computed by using a large sample of college freshman whose mean ability score is at the national mean for entering students.)

The profiles[1] of scores in Figure 1 represent three four-year, coeducational colleges, all of which are recognized as institutions of quality, all having strong programs in the liberal arts and sciences, and all sending large proportions of their graduates on to graduate schools. None of the three have been in the position to date of having four or more applicants for each student accepted. In these three colleges the mean ability score for entering students is well above the national freshman mean; however, the selection policy of the colleges is probably not as important in determining the type of student body as the factors which cause students to choose the colleges.

It is apparent on the basis of these measures that the three colleges, all with excellent scholastic reputations in the field of higher education, can be and are quite different in their student clientele.

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[1] Brief Descriptions of the Personality measures (Webster and Heist, 1959):

Thinking Introversion (TI): Measures an interest in ideas and liking for reflective thought, particularly of a more abstract nature. Thinking which is not dominated by objective conditions and generally accepted ideas. (Evans-McConnell)

Complexity (Co): Tendency to perceive and to react to the complexity of the environment, rather than to function at a level of greater simplicity. Characterized by tolerance for ambiguity and novelty. (Sometimes called "Complexity of Outlook." (Barron-Center)

Estheticism (Es): High scorers find value in form and relationships, seek major satisfactions in the "artistic episodes of life," expressed by literature as well as in art and music. (Sometimes called "Esthetic Orientation." Originated in studies of correlates of the AVL Aesthetic Values scale.) (Center)

Impulse Expression (IE): The general readiness to express impulses, and to seek gratification in either conscious thought or in overt action: high scorers characterized by ascendance, sensation-seeking, and radical sentiment. (Sanford-Webster-Freedman-Vassar)

Schizoid Functioning (SF): Measures degrees of social alienation and ego weaknesses, such as some confusion, disorientation, feelings of inadequacy and isolation. (Center)

Developmental Status (DS): An empirical scale for discriminating freshmen from seniors. High scorers are more like seniors, and they tend also to be high on Social Maturity and Impulse Expression. (Webster-Vassar)

Other measures or scales included in the personality inventory are the following: Liberalism (Li), Suppression Factor (RS), Lack of Anxiety (LA), Agnosticism or Atheism (AA), Couch-Kenniston (CK), Theoretical Orientation (TO), Originality (Or), Social Maturity (SM), Nonauthoritarianism (NA), Social Introversion (SI).

It has been shown that the varied characteristics of students are an important consideration in the scholastic attainments of the graduates of different schools (Holland, 1957; McConnell-Heist, 1959; Warren and Heist, 1960). The profiles of these three individual colleges do not contradict such findings, but they do show that graduates of colleges with considerably different student groups may and do go on in large numbers to advanced training. Whether the students from these colleges who continue their education represent the total gamut of the graduating populations, as typified by the personality profiles, or only segments of the respective student societies cannot be answered here.

As far as determining how these student bodies differ in their overt, observable practices, a good deal of the story is shown in these few scores. To comment briefly, college *A* presents the "seed bed" for the greatest intellectual ferment and enrolls many adventuresome young scholars, zealous to pursue new and different ideas, desiring to sample widely in the realm of knowledge, and willing to forego the activities of much of the "collegiate" culture found on many other campuses in order to find time for more academic pursuits. On a number of bases, the interested observer could detect that College *C* appears to be a progressive, on-going organization where numerous students are also caught up in the academic endeavor. But, one learns that a large portion of the student body, at various levels of ability, seem to have other commitments and are oriented in more conventional directions. The profiles of scores support the latter point, indicating that the great majority of students at College *C* are very different in their attitudes from the average College *A* student; in fact, over 85 per cent would have a general pattern of scores below the College *A* mean on four of the six scales in Figure 1, namely TI, Co, Es, and DS.

College *B* presents an entering class of greater variety, with numerous students who could successfully have enrolled in either one of the first two schools but not in both. The predominant student cultures in Colleges *A* and *C* are as diverse, perhaps more in attitudes and values than in social behavior, as the two profiles would indicate. The Institute paper by Martin Trow is essentially an examination of the cultural differences that might exist in campuses such as these two. A very minimal number of entering freshmen in either college would have considered enrolling in the other. However, quite a number from College *B* did consider *A*, some applying and gaining acceptance; a smaller number, and never the same students, from *B* gave some thought to attending *C*.

The picture of personality characteristics shown in Figure 2 represents the students in two coeducational colleges of average academic ability (*D* and *E*) and in one large public institution (*F*). The academic aptitude of the freshmen in this largest institution is the highest of the three. The students in institutions *E* and *F* are probably typical of the entering students in the majority of American colleges and

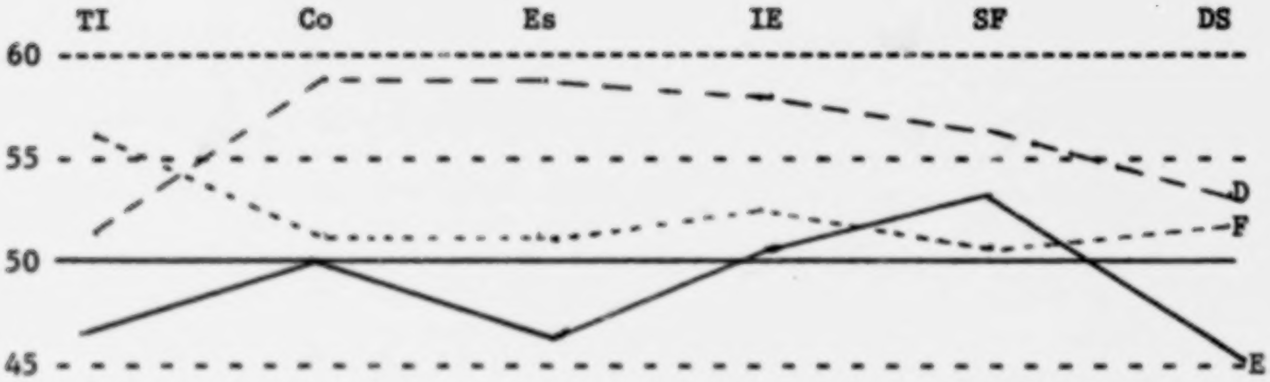

Figure 2. Standard score personality profiles representing the mean scores of entering students in two different four-year coeducational colleges (D and E) and in one large public institution (F).

universities in their ability, their general attitudes and in their interests in education. Those students selecting College D must be considered somewhat unique at this average level of ability, just as the College A students are also unique at a somewhat higher level. In public institution F, with thousands of students, we find the greatest diversity of college youth but only a surprisingly small number who fall above the mean scores of College D, except on the TI scale. The low scores for the latter institution (D) on Thinking Introversion support what has been observed through other approaches; but the general orientation and motivation of these freshmen is indicated by the high mean scores on four of the other scales. On the whole the College D students are much more dynamic and adventuresome than the average person in the other two institutions. The relatively high complexity and esthetic scores offer some evidence for an interest in ideas, in creative perspectives, and in new viewpoints, although for them this need not and does not lead to achievement in a grade-getting sense. From what is presently known about the students in Colleges D and E, it can be said that a great many in the latter school would find the student environment in D (or in A and B in Figure 1) very uncomfortable.

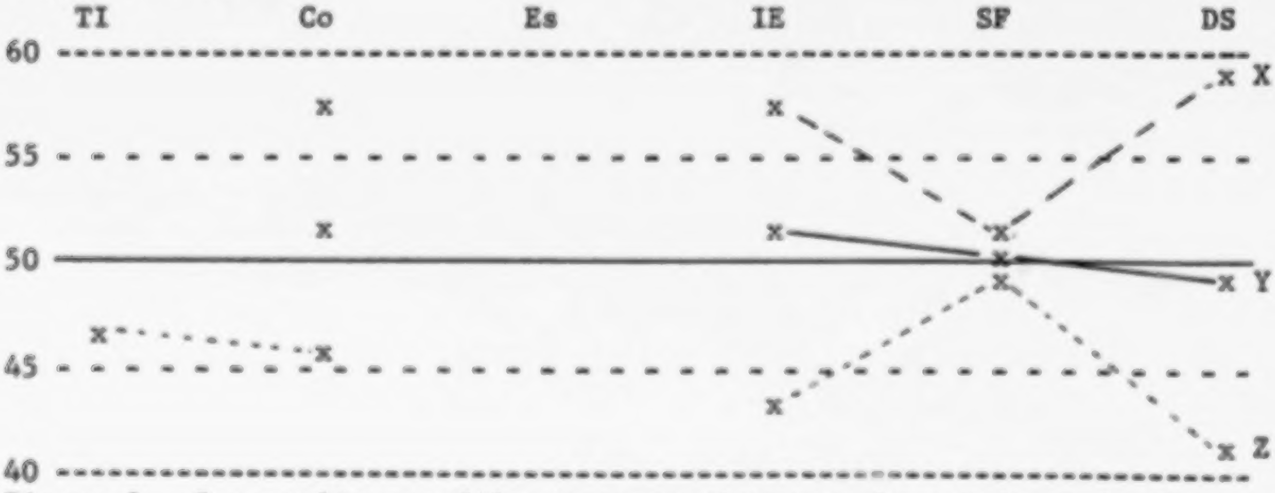

Figure 3. Personality profiles representing entering students in three private womens' colleges, X, Y and Z. (The reference group for the standard scores computed in this graph was a large group of freshman women of average ability.)

The few scores for private women's colleges in Figure 3 illustrate diversity among total student bodies even more dramatically. In each of the three cases, it is again more of a self selection process rather than an admissions policy that clusters these young people into rather distinct post-adolescent groups. It is appropriate that the philosophies and the program emphases of the three institutions allow for some real differences in what they desire or expect in the education of these young people, although the apparent similarity of explicitly stated objectives is, if not surprising, at least out of line with the student dissimilarities. All three colleges, according to their catalogs, aim to promote intellectual development as well as give attention to the emotional, moral, and aesthetic aspects of personal growth. They seek to instill and develop powers of critical thinking, to give a personal basis for decision making, and to provide knowledge and understanding of the world in which the students live. They also expect to inculcate appreciation of the values inherent in literature and the arts. It would be difficult to quibble with the general importance of these aims. One must recognize, however, that the aims cannot be realized in the same way in the two Colleges X and Z, in which such different attitudes and motivation prevail; nor could they similarly be realized in colleges as different as A and C in Figure 1. The complexity of perception and of reaction to the environment and the level of developmental status of the students in College X (scores are above the mean level of seniors in other colleges) provide a student culture greatly unlike that of College Z, or College Y for that matter. Chance enrollment of any X students in an institution like Z might well lead to personally intolerable situations. And the converse of that may be even more true. More important, we believe that the faculties in Colleges Y and Z, if they want to view realistically the college objectives, the students, and what is to be accomplished, should be aware that the objectives need to be re-examined in the light of the particular students who seek an education on their campuses. Perhaps a truly liberal education, resulting in changes of attitudes and values, is possible for many students in College X, but for many in College Z it would demand more personal re-orientation and a more potent educational experience than the overall environment can provide in four years.

The process by which students decide to enroll in the various colleges seems to be far from random. Judging by the profiles in Figures 1, 2 and 3, students seem to distribute themselves logically in a great many instances. Consequently, acceptance of or elimination by an admissions officer is not an identical problem in the great variety of colleges and universities. As admissions problems are increasing for more and more institutions, we may be approaching the day when students should be admitted with more attention given to the "personality mix" of the student body or to considering the major characteristics of the entering student in the light of the most prominent non-intellective characteristics of a student body. In reality, more and more colleges have been matching student and student body on the ability variable, and some colleges always have drawn a majority of their students from a rather restricted background, such as a single socio-economic level or one religious denomination. We have no basis for arguing for great homogeneity on any characteristics, nor have our research findings given us a basis for estimating an optimum level of homogeneity-heterogeneity regarding student body composition. We would suggest, however, that there are various amounts and kinds of diversity which are essential to promote an optimum educational atmosphere on any campus. We surmise that many institutions have hampered students' education and their own progress toward becoming a "good" college by encouraging applicants from only one predominant societal subculture. This could be illustrated in numerous ways but need not be expanded upon here. A related perspective to these considerations is found in Clark's discussion of the "public image" of institutions (Clark 1960 (a)).

The problems of selection and admission can be highlighted by a study of the constituent subgroups in any of a variety of institutions. A number of colleges in the country which admit a great number of students scoring well above 500 on the College Board aptitude tests have been concerned over the number of failing and withdrawing students. The reasons for this reside in more than the measured characteristics of students, needless to say, but in line with this presentation it is informative to look at a situation in which both the ability and the general motivation of students is above average. A few questions will be considered that might be raised by admissions officers in College A, a place with a fairly homogeneous student body from the standpoint of academic aptitude.

In Figure 4, the mean profile for entering freshmen in College A is shown again as A_1. Any college would be delighted by the level of thinking and motivation implied by the scores in this profile, averaging a standard deviation above the college freshman mean on the six scales. Most educators would hope to have their seniors score this high on these measures at the time of graduation. If these scores describe the attitudes of the average student on this campus, how much deviation from these attitudes may the individual student exhibit and still compete academically and still live socially and emotionally with his peers in this environment?

Possibly part of the answer to the above question and some bases for taking a second look at selection criteria are indicated by the two other profiles in Figure 4. Both groups, A_2 and A_3, have been identified by criteria experimentally independent of these personality measures. The mean aptitude scores of both of these groups approximate the College A mean. The scores of the small A_2 group, in this case all women, represent colorful and interesting personalities; these scores identify them as unusual regardless of where they might attend college. Their high scores on the intellectual components, namely the TI, Co and Es scales, are overshadowed by the high--and possibly neurotic--degree

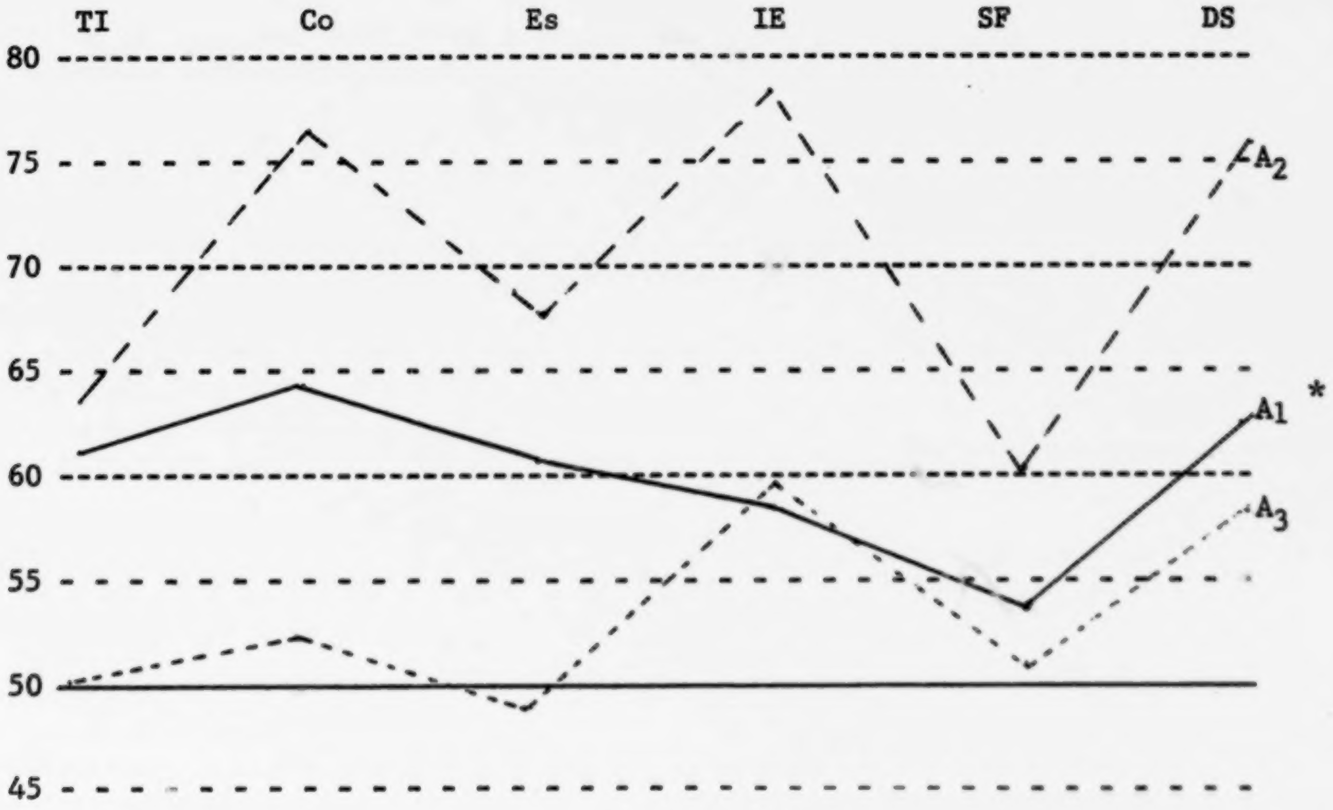

Figure 4. Personality profiles representing the mean of entering students and two small groups in college A (N of A_2 equals 5 and of A_3 equals 14).

*Freshman mean

of impulsivity and alienation, as shown by the scores on IE and SF. There is probably some disorientation, some isolation, and some rebellion, which prevents a disciplined approach in dealing either with themselves or their environment. One might view their profile entirely from the positive side in that scores approaching theirs are obtained by some students who behave in a scholarly fashion but who are unconcerned with grades. Group $\underline{A_3}$ is different from the college mean particularly in the much lower scores on the intellectual triad, the first three scales. Their orientation toward knowledge and scholarly activity is at the average freshman level (norms) which for adequate academic performance might well be too different from that of the majority on this campus. Some time ago several of us speculated that students having profiles like the $\underline{A_3}$ group, or like those in College C and Institution F, would experience real difficulty at a college like A, whatever their level of ability. This is, at least in part, the problem for people represented by both $\underline{A_1}$ and $\underline{A_3}$; although most of the $\underline{A_1}$ group are generally successful at this school, members of both groups do not tend to stay. Before completion of the second year, the majority have dropped out or moved on to other campuses.

Without being more specific, we feel that the type of diversity illustrated in Figures 1 through 4 suggest the reasonableness of viewing some personality measures as developmental variables. The findings to date warrant the consideration and possible inclusion of some of these personality scales in experimental investigations of change in students' psychological behavior on a pre- and post-basis. We will have to admit to uncertainty about their possible use and value as selection variables for several reasons. However, on an experimental basis again there is little reason to discourage attempts at utilizing such measurement (in general) in selection procedures.

Personality measurement and differential education

It is with more real interest and enthusiasm that we view the problem of differential education. Whether or not more can be done about this in educational institutions than can be done about changing the criteria of selection will probably remain an open question, whatever we and other research personnel have to say. A concern for the diversity of educational objectives and procedures has been expressed in previous papers, and we will attempt to avoid redundancy (Heist and Webster, 1960; McConnell and Heist, 1961.)* We are all aware of the difficulties in attempting to educate all individuals to the maximum of their potentialities, which is always likely to be more a philosophical ideal than a reality. Effective education becomes more difficult because of the increasing numbers of students and the more specialized education which they require; the ideals and objectives of a liberal education are more and more the attainment of a dwindling minority. Though there is real concern about improved methods of education, about improved accommodations for students, about greater compensation for the educators, et cetera, optimum education for the individual appears to be losing out. The smaller colleges with rather well defined, monolithic programs seem to provide the most likely environment to offset some of the concomitant negative developments, in contrast to the expanded curricula but attenuated climates (for the individual) of large public institutions. A brief review of some of our concern for diversity within institutions can be accommodated with data again from College A and another college designated as G.

In Figure 5 you will find profiles of five scales graphed for three major subgroups in one four-year, coeducational campus. These groups, which are rather easily identified on the College G campus,

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*Although we accept the responsibility for our specific statements in this paper, it is difficult to recall with certainty when some points are original with us and when they should be credited to other members of our disciplinary team. T. R. McConnell, chairman of the Center, has given the major impetus to the research on diversity in higher education and certainly has given some direction to the thinking of all staff members.

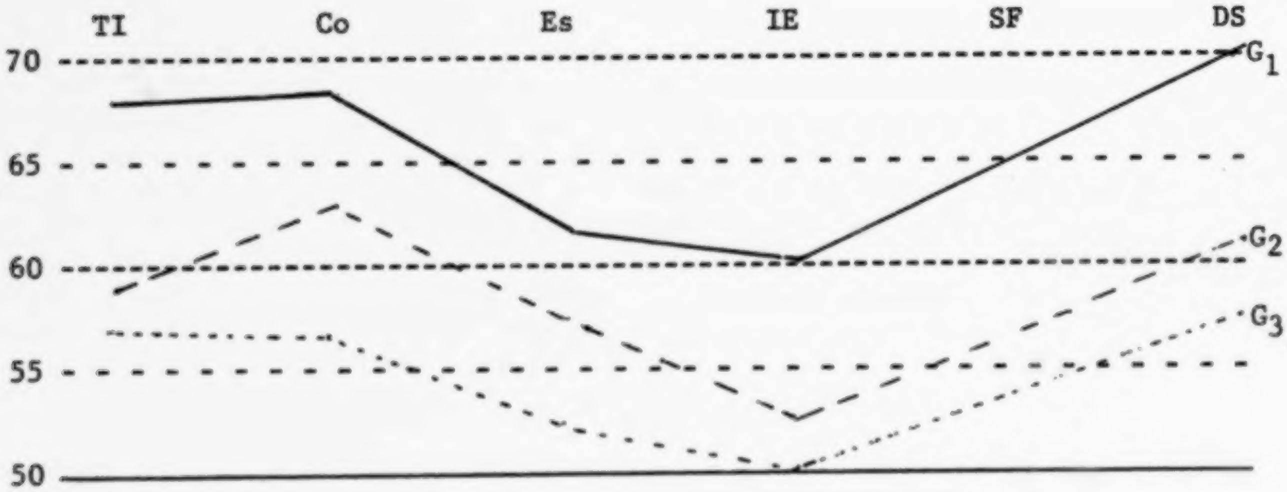

Figure 5. Personality profiles of three major subgroups found on one campus, College G, consisting chiefly of high ability students.

were categorized chiefly on the basis of major interests and affiliations and to some degree by residence. The three groups, all from one class, are made up of students of rather diverse attitudes and motivation and are actually somewhat distinct subcultures on this one campus. Obviously, the institutional admissions program must be using a number of criteria, which, implicitly or explicitly, provide the clientele who make up such diverse groups. They can be differentiated as readily on these psychological measure as can the total student bodies represented in Figures 1, 2 and 3.

College G provides a curriculum which is strong in the classical liberal arts and in the sciences, and it sends a large number of students on to graduate and professional schools. It also makes special provisions for the very capable students in a rather extensive honors program. On the other hand, there is not much provision for the development, and the more specialized education, of the artistically talented or creative, although an exception to this might exist in the field of literature and creative writing.

Very briefly, the profiles indicate that one large segment of the student body, namely Group G_3, has an interest in and a positive attitude toward the intellectual life somewhat above average (TI, Co and Es); the same is true of their score on the DS scale. Many a college of good reputation would not present a profile for the total student body higher than the mean scores on these four scales (Note Colleges B and C in Figure 1). But, significant for this group are the mean scores on the IE and DS scales. In this respect they look like many college students, and compared to the other two groups, they appear to be more contained, inhibited, less rebellious and more bound by societal sanctions. More than that, their intellectual orientation is not consonant with motivated experimentation in the world of ideas, with any serious questioning of their own way of life, or with much cultural criticism. Group G_2 most closely approximates the means of all entering students on the campus. In contrast, the G_1 people are almost in a class by themselves. Although representing no more than a fourth of the students in this college, their general motivation, including intensity of thought and spirited animation, give a definite "tone and color" to the student body and to all campus life. In the language of Stern and Cope (1956), they are in varying degrees excellent examples of non-stereopaths or anti-authoritarians. Certainly some deviation from general behavioral norms is implied by the high mean scores on IE and DS, but, in their overall functioning this appears to be counter-balanced by the very high intellectual orientation.

One might ask how well the curriculum and the campus activities help or hinder the education and development of the individuals in all three groups. To what extent is the known conservatism of Group G_3 challenged and opened to re-thinking? To what extent are such students actually brought to new and broader horizons? How much does the energy, the aggressiveness, and the intellectual potential of Group G_1 affect other students? And does it interfere with their own education?

We are told that members of all groups go on to graduate school but that the largest numbers come from G_2 and G_1, in that order. Quite a number from both G_2 and G_3 enter professional schools, compared to almost none from G_1. Individuals from all three participate in the honors program, but most honors students come from G_2. It is not unusual for people from G_1 to participate in honors seminars only to leave the program later and attempt to become involved in more independent study. Numerous upperclassmen speak of the general potency, along with the idiosyncracies, of the G_1 people. A small sample of seniors stated that the greatest contribution in seminars came from the critical thinking of the G_1 group and that the major influences for cultural and intellectual life on the campus came from members of the G_1 and G_2 groups.

We believe that knowledge of the measured diversity shown in Figure 5 might be profitably utilized. Some of the college's objectives will not be similarly appropriate for many individuals in the two extreme groups. Some students in the G_1 category, and in G_2 for that matter, exhibit a degree of liberalism, a level of cultural sophistication, and a real concern for social issues; and this is accompanied by a degree of maturity that may not be attained in a lifetime by some in the G_3 group, or by the majority of people who complete four years in college. G_1 and G_2 persons enter the institution subscribing to some of the faculty's intellectual values and believing in the merits of knowledge and the attainment of a greater understanding of life; this remains only an unachieved goal, and all too often not a desired one, for many others. To suppose that the objectives of a liberal arts education are being achieved by all College G students certainly would have to be classified as a myth. However, we are not prepared to say how the program in a college such as this one might be altered to better educate all these young people. That the program should be reconsidered and possibly altered from time to time we strongly recommend, as we would with any program.

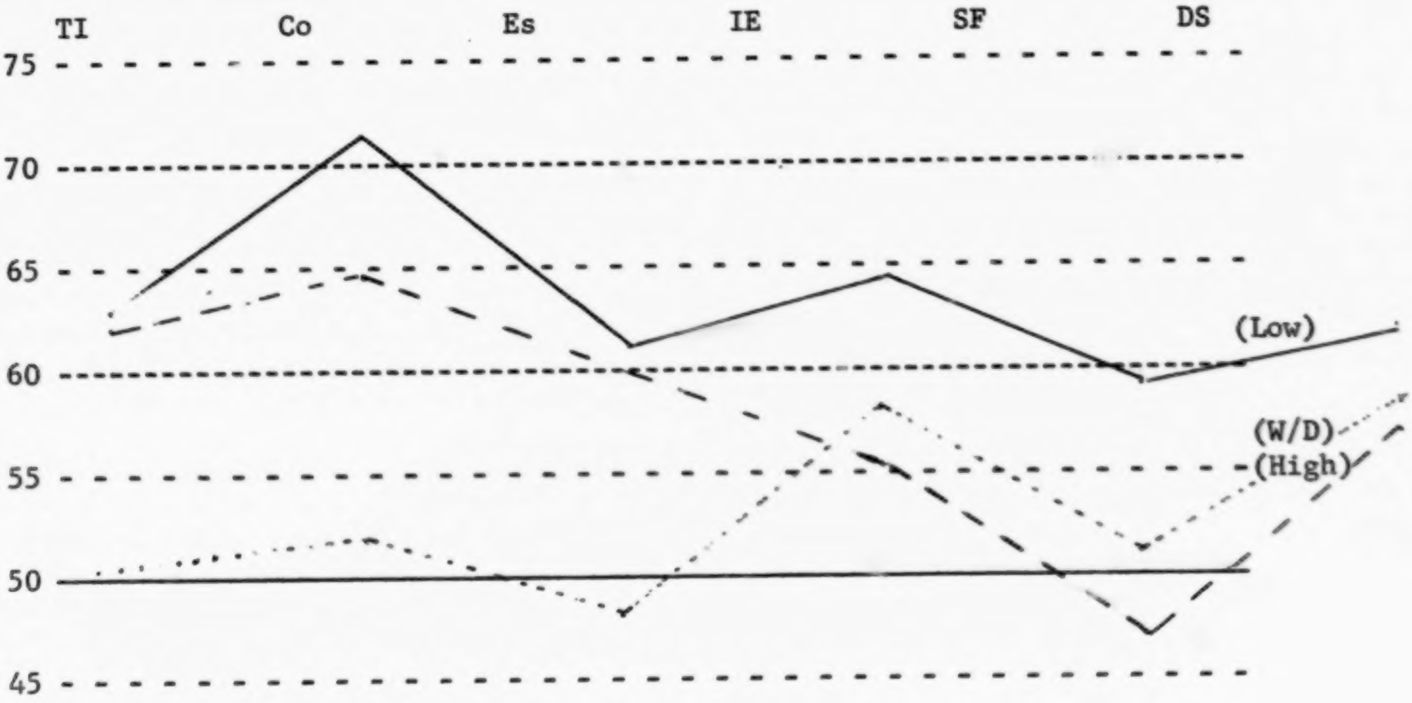

Figure 6. Personality profiles representing the mean of three groups in College A who are achieving at three different levels.

As a second illustration, in examing the problems of differentiated education, we note the measures for three subgroups in College $\underline{A}$, Figure 6. The upper two profiles, in the left half of the figure, denoted as Low and High in the right margin, represent students matched for ability, with the mean ability scores falling near the average of the school (Heist, 1960 (b)). These students have been grouped, as Low achievers and High achievers, on the basis of their obtained grades. The lower profile, indicated by the W/D, represents students from the same class, whose mean ability score also approximates that of the class and the other two groups. (They were the $\underline{A}_3$ group in Figure 4.) The total W/D group were identified as potential withdrawers; a large percentage of this lower group actually withdrew before the beginning of the second year. It is obvious that there is some relationship between academic performance and the measured attitudes and characteristics of these groups. The achieving group, from the standpoint of grades, possess the intellectual components, high scores on TI, Co and Es, but together with the lowest scores on the other three scales. The higher grades are achieved by students with what might be described as the more moderate profile on this campus, intellectual interests balanced by stability, personal control and containment. Before we describe those represented by the upper profile, those getting the lower grades, as genuine underachievers or even low achievers, we might remind ourselves that the criterion was grades, presumably indicating the quality of their course-work. It is possible that this might be an unfair, or somewhat inappropriate criterion for this group, at least from which to infer overall achievement. These may be the kind of students which in one study were found to be most appreciated by instructors and described as the ideal, but nevertheless not receiving the highest grades (Brown, 1959).

The profile of the W/D group suggests that their intellectual interests are sufficiently different from a majority of students in the college and that their degree of motivation, which we infer from this triad of scores, does not allow them to "play the game" academically in this environmental situation. Most W/D individuals from this college, as already mentioned, do not drop out of education but transfer and complete four years in other less demanding colleges.

Again, we can ask about differentiation of program. As is the case for College G, this student body in College A can be described as much more homogeneous than in 90 per cent of American institutions. And yet, we believe that subgroups, and/or individuals, are probably being handicapped, to varying degrees, by being seen and dealt with as members of a relatively undifferentiated student mass. College A, like any other institution, should not be expected to educate all who enroll. It may be quite possible, however, that the criteria for assessing achievement in college are too limited (notwithstanding the arguments of expediency, objectivity and problems of evaluation), and we urge that it seems appropriate to utilize criteria other than grades for evaluating educational gains. The use of this single evaluative basis appears to be an injustice to many students. We would encourage more experimental investigations in education to determine what all the derivatives of college life may be and how they might be measured more objectively.

Returning to Figure 6, for example, the college might attempt to discover in some detail what are the differences in the more general achievement of the Low and High group. It is not an educational objective to make students all alike, and it seems desirable to bring them closer to their own goals, in line with the potentialities, attitudes and interests they initially bring to the institution. Educators should perhaps re-examine the objectives of specific institutions to discover which can be accomplished with the particular students involved. Greater attention should be given to the influence on the educational climate originating in the particular student body or in particular student subgroups. We should seek to know what it means for a student to live with individuals of a particular subculture, as a factor within a single institution. We might also give more serious thought to structuring honors programs and seminars, to use one more example, with some attention given to the measured attitudes and interests of the candidates. Too often the criteria of ability and achievement have also not been adequate to this selective task.

Other implications and inferences that might be drawn from the data presented cannot be included here. Summary statements supplementary to our comments and conjectures will serve as a concluding overview.

Summary

Administrators and faculty who are initiating research on students and their education should be encouraged to analyze the objectives of their particular institutions. Concern with admissions policy and with more comprehensive evaluation of the immediate effects of education should revolve around the questions of "selection for what?" and "education for what?" That the single criterion of grades has been given such great importance appears almost incongruous to us, especially when we read the multiple purposes and objectives so eloquently set forth in institutional catalogs. Research should help in the determination of some of the important objectives, or outcomes of education, which also can be measured or evaluated, and it should help in discovering how this might be done. The *devotion to grades reflects* a concern for objectivity and parsimony but even were grades perfectly reliable, they are woefully inadequate for the task at hand.

In line with reviewing objectives, the actual diversity among students should be the object of more diligent examination. In those colleges where, during the last decade, the selection of students has gradually resulted in higher mean ability scores, the faculty continue to evaluate students just as they did twenty years ago. Increased attention to individual differences certainly will not simplify pedagogy, but we should cease to flatter teaching as an art, or a profession, unless we give more than lip service to its great complexity. To iterate, students at age 17 in College A are unlike students in College C on numerous characteristics despite common formative pressures from their general adolescent peer cultures. In the former case, a general readiness for education, for experimentation with ideas, and for change exists to a much greater degree in many other students.

Consideration for diversity, especially in the educational program, is probably of even greater importance in our larger, more complex, public institutions. The presence of important subcultures within smaller, private colleges is perhaps suggestive of the significant student subgroups existing within larger universities.

Educators and social scientists, administrators and faculty, should take a first, second or third look at the various procedures, from admissions to course evaluation, to see where one of the most tradition-bound institutions, especially where the education of students is concerned, might be freed from some of its historical bondage. Let us acknowledge that we educate some, perhaps many, quite well. Are we willing to diligently review how much better this might be done?

The differences among students in attitudes, values and other personality characteristics highlighted in a variety of recent research suggest that research plans in colleges should include analysis of the personality patterns and psychological climates of student bodies and the subgroups within student bodies. These climates, which result from the major attitudes, constitute facilitating or inhibiting forces in the intellectual life of a campus, and they may be understood, if not actually manipulated, in an institution's attempt to improve the educational process.

INSTITUTIONAL RESEARCH ON RETENTION AND WITHDRAWAL

DOROTHY M. KNOELL
Consultant in State College Curricula
California Department of Education
Sacramento, California

A. INTRODUCTION

Two conclusions can be drawn from a review of the existing institutional research on retention and withdrawal of college students:

1. The bulk of the research is unimaginative and unproductive, in terms of discovering new knowledge or attempting to develop techniques for controlling the situation;
2. A serious problem exists with respect to rates of retention and withdrawal, which is in some ways more critical than that associated with selection, in view of our losses of large numbers of competent students now selected for admission and the competition for scarce places in the freshman classes across the country.

In attempting to review and collate the existing research in this field, some delimitation of the topic seemed desirable. First, there was no attempt to study academic standards for probation and dismissal, or the rates produced by such standards, except as they were reported incidentally in a few of the studies examined. (Failure of the researchers to separate voluntary withdrawals and dismissals in their various investigations appears to be one fairly serious limitation in the current research.) Second, scant attention is given to retention and withdrawal in graduate and professional education. While useful leads for new investigations are found in studies of attrition in professional schools, it appears that the problems of remediation and program planning are too different to warrant detailed consideration of these studies. A relatively heavy emphasis in this review of research has been put upon problems of freshman attrition, in contrast with attrition at the upper division level. In California, with the tri-partite system of higher education of junior colleges, state colleges, and the university, where a considerable segment of the lower division students are educated in junior colleges, attrition at the junior level after transfer is large. However, since a majority of the studies in institutions in other states assume normal progress in one institution from the freshman through the senior year to graduation, attention has been given to retention and withdrawal after transfer only in connection with the California studies. Finally, studies of attrition between high school

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and college, among able high school graduates who have the ability to profit from college work, have not been included in the present review. A number of good studies are now in progress or have recently been completed, which are readily available to those concerned with this problem. The higher priority in the current review seemed to belong to the problem of salvaging the able students now admitted to our freshman classes.

The approach which has been used in reviewing past and current research is an analysis of methodology of research on retention and withdrawal, rather than content or findings. No attempt was made to perform an exhaustive analysis of all studies in this area. While hundreds (if not thousands) of individual institutional studies could be cited, the increase in scope or depth of knowledge gained beyond reviewing a limited sample of such studies is very small. The following general categories of studies in this field appeared useful in reviewing the existing research:

1. census-type studies: the largest number of studies performed to date involve following an entering freshman class through a number of semesters of work (frequently to graduation) in order to establish rates for attrition by semester and percentage of graduates after eight or fewer semesters. These studies serve primarily to establish a baseline or norm for the particular institution, against which results of other kinds of studies may be evaluated.

2. autopsy-type studies: these studies, which are frequently part of the census studies, attempt to find out why students withdraw before graduation, by asking students to fill out questionnaires at the time of withdrawal, by requiring exit interviews as part of the withdrawal process, and by comparing characteristics of withdrawal and graduating groups.

3. case-study approach: many institutions have performed long-range follow-up studies of students identified as potential withdrawals at the time of admission, usually because of weakness in preparation or marginal ability. The studies may be classified only loosely as research since they serve primarily to produce leads for more formal investigations.

4. prediction studies: admissions variables are related to various criteria related to success and failure, including dismissal and voluntary withdrawal. The various types of criterion variables employed include the usual continuum of success-failure (grade-point average for the first semester, first year, or the cumulative grade-point average for the time the student is in school), graduation vs. non-graduation, scholarship standing, and withdrawal for various reasons.

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The body of the report is organized in three major sections: Methodology, with some firm findings from the various types of existing studies; promising leads from exploratory studies which have not yet produced firm findings; and studies that should be conducted by individual institutions and by cooperating institutions.

B. REVIEW OF EXISTING RESEARCH

1. Census-type studies. Robert Iffert's monumental study of Retention and Withdrawal of College Students (1958) serves as an excellent example of the census-type study, performed in a nation-wide sample of 147 institutions (public and private, church-related and independent, junior college and four-year, general liberal arts and specialized), with more than 12,000 students (full-time freshmen starting in the same semester, who were single, non-foreign, and not enrolled under provisions for veterans benefits). The census-type data include percentages of students who persist one, two, three, etc., through eight semesters, with and without graduation at the end of four years, with attention to transfer and scholarship status at the time of withdrawal, by type of control (public vs. private), type of institution (liberal arts, teachers college, etc.), and sex. The major normative findings from the Iffert study are the following:

1. Fewer than 40 per cent of the students graduate in four years from the institution of first registration. (No attempt was made to follow these students beyond eight semesters to find out how many graduated within a reasonable time beyond the normal four years.)

2. Perhaps as many as 60 per cent of the entering freshmen graduate eventually from college, after one or more transfers to other institutions, temporary withdrawals from the institution of first registration, or while carrying part-time course loads. Figures are estimates beyond the initial 40 per cent in the first finding, based in part on self-report by the students.

3. Public and private college rates of graduation differ significantly. Only 33 per cent of the entering freshmen in public institutions graduate in four years, compared with 48 per cent in private institutions. Church-related institutions have a graduation rate of 44 per cent, while non-church related colleges graduated half of the entering freshmen in four years.

4. Rates for the various types of institutions differ significantly. Teachers' colleges graduated the smallest percentage, with only 36 per cent of the entering freshmen completing their programs after four years; universities, 39 per cent; liberal arts colleges, 41 per cent; and technical institutions, 43 per cent.

5. No significant differences in rates of graduation for men and women were found, although the rate for women was slightly higher. Men and women were represented in the total study sample in the ratio of 59 per cent men and 41 per cent women. The ratios and the graduation rates differed with type of institutions, however, and significant differences in rates of graduation for men and women were obtained for teachers colleges and technical institutions, both favoring women.

6. Attrition for all colleges was heaviest during the freshman year. A loss of 27 per cent was reported during or at the end of the freshman year, compared with a total loss of 28 per cent for the next three years combined. In the freshman year, the first-semester loss was 10.7 per cent; the second-semester loss, 16.6 per cent. However, the rate of attrition for men was about equal for the first two semesters, while the attrition rate among women was far heavier at the end of the second semester than at the end of the first.

A large number of institutions in the WICHE member states reported studies of retention and withdrawal in the survey of institutional research published last year (Sprague, 1959). Among them are Arizona State University, the University of Arizona; Citrus Junior College, City College of San Francisco, Los Angeles Valley Junior College, Occidental College, Riverside College (all California institutions); the University of Colorado; Ricks College in Idaho; the Montana School of Mines; Lewis and Clark College (Oregon); Utah State University; and Whitman College (Washington). In addition, the University of California and the various State Colleges have undertaken census-type studies, in connection with the recent Master Plan Survey of Higher Education in California and subsequently in anticipation of changes in admission requirements. Also, the various junior colleges are undertaking systematic studies of retention and withdrawal in connection with Western College Association accreditation.

While the Iffert study is the major systematic investigation of retention and withdrawal of its kind, it has the serious limitation of having sampled the entering class of 1950, which was enrolled during the Korean War and immediately thereafter. The model is certainly a good one, but the question arises as to whether or not the normative data produced by this study are reliable over time. In order to test the validity of the findings, in terms of their generality, several studies of retention and withdrawal performed by individual institutions were reviewed.

University of Iowa study (State University of Iowa, 1959)--An eight-semester follow-up study of the freshman class entering the University of Iowa in 1953 showed that 32 per cent of the freshman were graduated within eight semesters of initial registration; 42 per cent of the freshmen had withdrawn during the four-year period; 12 per cent could be classified as potential graduates, at the University or elsewhere; and the remaining 13 per cent were not accounted for. Three-fourths of the withdrawals occurred before the fall of the sophomore year, 85 per cent before the junior year. Twenty-two per cent of the freshmen withdrew during or immediately after completing the first year; total attrition for the remaining three years was thus about equal to that for the first year. In summary, the net mortality for the 1953 entering class, i.e., the percentage which failed to graduate from any college in a reasonable amount of time, was estimated to be 37 per cent. The gross loss to the University of Iowa, however, was judged to be 49 per cent. The percentage of students who did not make normal progress toward the baccalaureate degree was found to be 68.

University of Wisconsin studies (Lins and Pitt, 1953; Little, 1959 (b))--A typical follow-up study was performed for the freshmen entering the University of Wisconsin in 1948. More recently, a follow-up was made of all students in the top one-quarter of the 1957 high school graduating classes in Wisconsin who entered college in the fall of that year. The following results were obtained from the two studies:

1. Of the 1948 entering class at the University of Wisconsin, 30 per cent graduated in four years or less from the University, including 26 per cent of the original male group and 37 per cent of the entering female group. Of the total group, 28 per cent stayed in school one year or less, 42 per cent failed to reach the junior year, and 8.5 per cent were registered in the eighth semester but failed to graduate with the class. Sizeable percentages of the withdrawals re-enrolled at a later date at the University or transferred to other institutions.

2. A special study of the top quarter of the Wisconsin high school graduates showed that 63 per cent attended college the following year (77 per cent of the men and 54 per cent of the women). One-third of the college students enrolled in private institutions; 23 per cent attended out-of-state colleges. Nearly half of the freshmen attending college in Wisconsin registered initially at the University. A four-semester follow-up of this selected group showed an overall loss of 17 per cent, including transfers between institutions. Attrition in public institutions was greater than that in private colleges; attrition in Wisconsin institutions was greater than in out-of-state colleges. Attrition for men and women in the total group was similar, although the heaviest loss for a single group was among the male students at the University of Wisconsin, with a net percentage of 23 per cent discontinuing (32 per cent, if students who discontinued and re-entered are counted). A gross loss of 22 per cent for both sexes was obtained for the University for the first two years, or a net loss of 18 per cent when transfers to other colleges were accounted for.

University of California study (Master Plan Survey Team, 1960)--Studies have shown that approximately 15 per cent of the California high school graduates are eligible for freshman admission to the University of California, on the basis of grades in a required high school subject pattern. A comparison of attrition at the University with rates for state universities having either no admission standards or considerably less selective standards is of some interest. The following general findings were reported by the University, based on a number of studies of the various campuses and entering classes:

1. Forty-five per cent of the freshmen withdraw from the campus of original registration before completing eight semesters; 35 per cent of the freshmen earn the baccalaureate degree by the end of the eighth semester. From 10 to 15 per cent withdraw and re-enter the University, or transfer between campuses.

2. Attrition among women is from 10 to 15 per cent greater than attrition among men. The attrition rates for the various campuses differ (apparently systematically, although further studies are needed to establish reliable differences).

3. Attrition among junior college transfers is considerably higher than attrition experienced by "native" juniors and seniors. From 28 to 57 per cent of the transfers earn the baccalaureate degree within four semesters, the percentage depending upon the students' eligibility for University admission at the time of graduation from high school. An estimated 60 to 76 per cent of the transfers earn their degrees at the University eventually, the percentage again depending upon eligibility status as freshmen.

California State College studies* -- Somewhat less than one-half of the high school graduates in California are eligible for freshman admission to the 14 State Colleges. In the fall of 1958, nearly 13,000 students were classified as freshmen in the State Colleges. Of this group, only 57 per cent were admitted from the prior year's high school graduating class. Nearly one-fourth were "old" freshmen who had not yet completed 30 units of work, while 11 per cent had transferred with less than 30 units from another institution. The more than 7,000 new, first-time freshmen constitute the population for the long-range follow-up study now under way. Some of the generalized findings from this and earlier studies performed by particular colleges are the following:

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* Selected statistics from a state-wide study of retention and withdrawal now in progress for freshmen entering in the fall of 1958.

1. Approximately one-fourth of the entering freshmen withdraw or are disqualified during or at the end of the freshman year, not including voluntary withdrawals at the end of the first year. Attrition is divided about evenly between voluntary withdrawals and dismissals for academic reasons, although voluntary withdrawals following the spring semester would change this balance. A significantly larger percentage of men than women are dismissed, while voluntary withdrawals during the year are about equal. Other analyses show that women tend to withdraw in good academic standing at the end of their first year, with the result that the total freshman attrition rate for women is greater than that for men.

2. Male freshmen constitute 55.7 per cent of the total entering class in all of the state colleges. However, by the senior year, the percentage of males has increased to 68.7 per cent. Analyses of transfer enrollments from junior colleges have shown that the transfer group contains a significantly higher percentage of males than females.

3. One four-year follow-up study showed that only 26 per cent of the entering freshmen survived to the senior year in college, to participate in the fall semester in an evaluation study.

4. The new transfer group in the fall of 1958 was 10 per cent larger than the new first-time freshman group accepted that fall, even when "old" high school graduates are included. Transfer students in the graduating class in 1957 accounted for 59 per cent of the degrees, compared with 41 per cent awarded to students who enrolled in the college as freshmen. Transfers from junior colleges constitute approximately 70 per cent of the total transfer group.

5. Analysis of persistence of transfers at two colleges over a period of four semesters showed that only 39 and 49 per cent of the junior transfers received their degrees after completing four semesters. An additional 15 per cent at one college and 20 per cent at the second earned degrees in later semesters, giving an attrition rate of 46 per cent for one college and 31 per cent at the other. At a third college, it was found that 49.5 per cent of the transfers earned their degrees at or before the end of their fourth semester of study, and that 39 per cent withdrew without their degrees. Attrition for transfer students in the upper division is thus judged to be about as high as for freshmen in the first three semesters.

California Junior College studies (Master Plan 1960; and Stockton College, 1960)--Variation from the norm found in the Iffert study and elsewhere is expected for the California junior colleges, because of the nature of the program and the goals of the colleges. All high school graduates are eligible for admission to the junior colleges, and standards for probation and disqualification tend to be more liberal than in the four-year colleges. New state-wide minimum standards of scholarship were recently adopted by the State Board of Education for continuance and dismissal. Two studies performed by junior colleges with freshman classes of 1000 and 710 students are cited as examples of research on persistence in the California junior colleges. No attempt has been made to generalize from the findings.

1. Sixty-one per cent of the entering students completed the freshman year, 46 per cent entered the sophomore year, and 35 per cent graduated within two years of admission. Of the drop-outs, 68 per cent were deemed justifiable and to the students' advantage.

2. Fifty-five per cent of the entering students completed the freshman year, 47 per cent completed three semesters, 40 per cent completed four semesters, and 25 per cent graduated. Of the nongraduates, 32 per cent withdrew without completing a semester, 19 per cent "ended" before completing four semesters. 17.5 per cent continued their education elsewhere, and six per cent were dismissed from the college.

Private college studies--A random check of individual studies from high-ranking private colleges shows wide divergence from Iffert's "private college-non-church related" norms, in the direction of a much higher graduation rate than Iffert's 50 per cent. Several hypotheses are suggested to account for the differences in findings. First, it appears that there may be considerable variance among private institutions in the percentage of graduates produced by the entering classes, even within the private college - non-church related category. Iffert does not show variance within any of the major categories of control, nor within other categories of institution except by type of program. It is probable that differences in attrition within categories are related to admission standards, size of enrollment, tuition, and other administrative as well as academic variables. Second, there undoubtedly has been a strengthening of selection standards in the private colleges since 1950, in order to control the size of enrollment and to reserve scarce spaces for the best students. Finally, it is possible that variance in private college attrition rates may be associated with the particular characteristics of these institutions which have not yet been studied. In any case, there does not appear to be a particular norm for attrition in private colleges, although a goal of less than ten per cent seems to be operationally feasible.

2. Autopsy-type Studies. A majority of the census-type studies are also concerned with reasons for withdrawal. The data are obtained by questionnaire or exit interview at the time of withdrawal, analysis of the student records produced during the period of residence, and/or questionnaire at some time after withdrawal. A general and fairly serious criticism which can be made of the autopsy-type study is that withdrawals

for clearly academic reasons, i.e., dismissal for poor scholarship, are not distinguished from voluntary withdrawals. If the student is dismissed for poor scholarship, the reasons he may give for withdrawing are only incidental, since he has had no choice. Furthermore, nearly all studies lack adequate information on transfers to other institutions or re-enrollment at the institution of original registration. Reasons for transfer or temporary withdrawal are in most cases not separated from those given by the "true" losses to higher education.

Again, the study by Iffert provides the major example of the group autopsy-type research. Questionnaires were sent out in 1953 to students registering as freshmen in 1950, to investigate reasons for going to college, reactions to college experiences, biographical information, reasons for transferring from the institution or original registration, and reasons for discontinuance. Some of the major findings of the questionnaire study are the following:

1. Reasons for going to college were classified as academic, occupational, personal-self, social service, and "traditional." Ratings given by students three years after registration were found to be unrelated to persistence in college.

2. Reasons for withdrawing from college were rated by students about as might be predicted for 1953, the time of the study. Men gave "military service" as the primary reason. However, "lack of interest" was given by 48 per cent of the men, followed by "personal financial difficulties," by 41 per cent. Women gave "marriage" as the chief reason for withdrawal (by 49 per cent), followed by "full-time employment" (37 per cent), and "personal financial difficulties" (36 per cent). "Lack of interest" was ranked as the fourth most important reason by the women, noted by one-third of them. Twenty-one per cent of the men and eight per cent of the women gave "dismissal" as an important reason for discontinuance, while 23 and 10.5 per cent, respectively, checked "probation" as an important reason. "College work too difficult" ranked sixth and seventh in importance in the 22 reasons listed by Iffert in the questionnaire.

3. Reactions to college experiences were purposely not included in the list of reasons for withdrawal which were judged by the students. Students gave ratings of degree of satisfaction with administrative and student personnel services, faculty and instructional services, and campus activities. Iffert found that ratings did not differentiate between the withdrawal and persisting groups. However, he inferred from the low ratings given some critical services by both groups that the withdrawal group was less able to tolerate the poor conditions than the group which persisted to graduation. Faculty services were rated lowest, including counseling, advising,

help on study techniques, and informal faculty contacts. Administrative services received the highest ratings, including opportunities for religious activities, student social activities, library, fraternities, housing, and loan services.

4. "General dissatisfaction" was rated highest as the reason for transferring from the institution of original registration by the group identified clearly as transfers. Change in curricular interests, desire to be nearer home, and desire for a less expensive institution were also cited as important reasons by the transfer group, but these latter reasons ranked far below "general dissatisfaction." The highest percentage of transfer students came from church-related institutions, not including the junior college data. Reasons were based in large part on recall, since 40 per cent of the transfers had withdrawn by the fall of the sophomore year and the questionnaire was distributed late in the third year. Percentages of students transferring, by type of program, ranged from 7.5 per cent for teachers' colleges to 13.4 per cent for liberal arts colleges.

5. Other variables included in the Iffert study are financial data, home location, college housing, activities, and program interest.

   (a) Median family income was found to be related significantly to persistence, but not to ability of the students. One-third of the early drop-outs had family incomes below $4,000 (in 1953), compared with 23 per cent of the graduates. Income varied with type of institution attended. Little relationship was found between persistence and student earnings, but the conditions of wartime enrollment of men may have obscured the relationship.

   (b) Little relationship was found between persistence and living at home vs. living on campus. Beyond the first semester, students away from home seemed to persist better, for a variety of reasons. Larger percentages of "college residents" graduated in the normal time, particularly among the male groups.

   (c) Fraternity-sorority membership was found to be related to persistence to graduation, both for individuals and institutions. The relationship was stronger for sororities than for fraternities.

   (d) Persistence was not found to be related to type or amount of organized extracurricular activity in which students participated.

(e) Program interest was found to be highly related to persistence. Occupationally oriented subject fields had the highest retention rates, e.g. engineering, physical education, agriculture, and business administration.

A major criticism of the Iffert study is the failure to examine the significance of variance associated with institutions. Review of the findings leads to the hypothesis that variance may be greater between institutions (and types of institutions) than between students in the persistence and withdrawal groups. Intra-institutional variance for many of the factors is predicted to be small, compared with variance among institutions particularly for the latter set of variables.

Some comparable findings are available from the other census-type studies already cited, as follows:

1. University of Iowa study -- no statistical relationship was found between a composite parental education rating and persistence, although students whose parents held at least the baccalaureate degree tended to persist in college. No relationship was found with father's occupation, nor with family income.

   A good relationship was found between persistence and certainty of vocational choice. Persistence for students with specific choices was 57 per cent, compared with 42 per cent for students who were highly uncertain. A high relationship with persistence was found with number of college years planned--the greater the number planned (including post-graduate work), the greater the persistence.

   Fifty-four per cent of the withdrawals had plans for further education at the time they were questionned; 23 per cent expected to re-enroll at the University of Iowa, while 30 per cent transferred (or expected to transfer) to other institutions.

2. Wisconsin study of the upper quarter students -- both students and the registrars of the colleges the students attended were queried concerning the reasons for withdrawal, with some differences in results. For the male withdrawals, registrars reported that 63 per cent had academic difficulty, although only 17 per cent of the men themselves checked this reason. Half of the males listed "financial" as the prime reason for withdrawal, although the registrars attributed this reason to only seven per cent of the withdrawals. Both registrars and students listed marriage as the prime reason for withdrawal among women students (44 per cent of the registrars and 61 per cent of the women). In addition, the

registrars reported that 28 per cent of the withdrawals among the women were in academic trouble, while only 17 per cent of the students checked this reason for withdrawal.

Father's education was found to be related to persistence for this college group. Where the father was a college graduate, persistence through four semesters was found to be 93 per cent. For students whose fathers were not even high school graduates, persistence dropped to 66 per cent Some relationship was also found with father's occupation, with lowest persistence for students with fathers in small business and farming.

3. Junior college studies -- Reasons for withdrawal without completing a program or course of study were reported as follows: employment in the field of study, 41 per cent; military service, 14 per cent; other reasons included parents moving from the district, transfer to senior institution, marriage, health, and finances. Some relationship was found with father's occupation, as follows: managerial class, 55 per cent graduated or continued their education; laboring class, high withdrawal (41 per cent) and low continuation of education; operative group, high percentage of students "ending" education in non-transfer programs, low withdrawal during the semester. Student choice of occupation was not found to be related to persistence.

4. State college studies -- a relatively high percentage of students withdrew during the semester, when academic difficulty seemed inescapable, in order to avoid receiving failing grades. The usual reasons were given for withdrawal: employment, financial problems, marriage, and illness. Transfer among colleges, including the junior colleges and the University of California, accounted for a sizeable percentage of withdrawals from the state colleges. Students transferred to the junior colleges to raise their grades or to enroll in two-year programs. Others transferred to the University to enroll in professional programs, live in dormitories, or undertake upper division work in particular fields.

3. Case-study Approach to Research. Case studies of withdrawals appear to fall generally outside the definition of institutional research, in terms of scope and methodology. In general, they are the concern of the admissions officers and counselors into whose hands the fate of students often falls. Special attention is given to probationary students (at entrance), doubtful risks, counseling cases, and others identified early as potential withdrawals. Results show that the clinical predictions made by these college officials are often more accurate than

chance (or statistical prediction), but the large proportion of misclassifications suggests caution in incorporating hunches into admissions criteria. On the other hand, results of case studies often have led to controlled studies and/or to better counseling.

4. Prediction studies from Academic Variables. Problems of selecting appropriate criterion measures are apparent from a survey of existing research on retention and withdrawal in which academic variables are studied. Among the various measures used are college grades (cumulative grade-point average for four years, cumulative grade-point average for as long as the student persists, first-semester grade-point average), graduation (in eight semesters or variable, at institution of first registration or after transfer, after continuous or interrupted attendance), scholarship status (clear, probation or warning, continued probation, dismissal, readmitted on probation), and condition of withdrawal (in good standing, failing, or without academic record). Studies in general have used only "persistence to normal graduation" and "withdrawal" as criterion groups, without further refinement.

High School Grades. Rank in class usually reduced to deciles or quarters, and high school grades are used in a number of persistence studies. Since a relationship has been found between high school performance and persistence in college in most of the studies conducted, a cursory review of the findings appears justified.

1. Iffert study - forty-nine per cent of the male graduates came from the top one-fifth of the high school graduating class, 26 per cent from the second-fifth, and 15 per cent from the middle fifth, for a total of 90 per cent from the top three-fifths of the class. Among the women graduates, 67 per cent came from the top fifth, 23 per cent from the second-fifth, and eight per cent from the middle fifth, for a total of 98 per cent from the top three-fifths of the high school class. The top fifth of the high school class was found to produce 42 per cent of the freshman enrollment, and only 32 per cent of the withdrawals.

2. University of Iowa study -- high school grade-point average was used as the predictor variable. The mean for the withdrawal group was found to be 2.53; for the persister group, 2.91. The difference was found to be statistically significant. Of the students earning averages of B plus or better, 78 per cent persisted; B to B plus, 61.5 per cent; C plus to B, 54 per cent; C to C plus, 45 per cent; D plus to C, 35 per cent; and below D plus, 15 per cent persisted. Eighty-three per cent of the graduates had earned an average of at least C in high school.

3. University of Wisconsin study -- the mean high school percentile rank in class, by semester of persistence, was found to be the following: eight semesters, 79: six semesters, 66;

four semesters, 62.5; three semesters, 58; two semesters, 62; one semester, 50. The mean percentile for the graduates was found to be 80, compared with an overall mean of 68.

4. University of California study -- Almost all freshmen admitted to the University earn a B average in high school in a rigorous college preparatory program. The high school differential for withdrawals with University grade-point averages above and below C was found to be equal to 0.2, on a scale with A equal to 4.0 and D equal to 1.0. While there is relatively little variance in the high school grades earned by University freshmen, variance in college grades is large. About 54 per cent of the withdrawals before the fourth semester earned University grade-point averages of C or better; 34 per cent were in "serious academic difficulty."

5. State College study -- when dismissals were separated from voluntary withdrawals, the high school record did not differentiate between the persistent group and the voluntary withdrawals. The graduating class was found to be somewhat more homogeneous than the freshman class with respect to the high school record, but mean grade-point averages from high school were about equal.

Aptitude Test Scores. Scores on the American Council on Education Psychological Examination or other tests of scholastic aptitude have generally been used in relating ability to persistence in the various studies reviewed. A relationship between test scores and persistence has been found in a majority of them.

1. Iffert study -- Among the graduates, 27 per cent of the men and 28 per cent of the women earned scores in the top fifth of the distribution, while only 17 and 12 per cent of the graduates earned scores in the bottom fifth of the distribution. While the overall distribution of scores for the entering freshmen was approximately rectangular, graduates tended to be drawn from the top two-fifths and withdrawals from the bottom groups. Relatively fewer withdrawals with high test scores were observed than withdrawals with high grade-point averages in high school.

2. University of Iowa study -- the mean test score for withdrawals was found to be 41.8; for the persisters, 57.5. The difference is statistically significant. From the top decile down through the seventh, for the test score distribution, approximately 70 per cent of the students persisted in college and 50 per cent earned their degrees on time. At the sixth decile, half of the students persisted and 38 per cent earned their degrees on time. From the fifth down through the third decile, about 45 per cent persisted and 30 per cent earned their degrees in the normal time.

3. University of Wisconsin study -- students who persisted through at least six semester earned mean scores with percentile ranks in the 50's, while students who persisted for only one semester earned mean scores with a percentile rank of 33. The mean for the total entering group was found to be 49, while the mean for students graduating in eight semesters was 59.

4. State College study -- voluntary withdrawals tended to come from the top and bottom quintiles of the test score distribution. Women with good high school records but poor test scores tended to drop out after the first year. Low test scores produced a large proportion of the dismissals for academic reasons.

5. Junior college study -- 78 per cent of the withdrawals earned test scores below the fiftieth percentile, on four-year college norms. Fewer withdrawals than expected occurred among students with scores above the 25th percentile, while more than expected occurred below the 25th percentile.

College Performance. Analyses have been made of college grades and probationary and dismissal status in relation to retention. However, the findings are confounded by the mixing of dismissals with voluntary withdrawals. Since strong relationships with persistence are reported, note should be taken of the findings.

1. University of Iowa study -- the mean cumulative grade-point average for withdrawals was found to be 1.84 (below C), while the mean for students persisting was 2.33 (the difference is significant). For the first semester, the means for withdrawals and "persisters" were found to be 1.78 and 2.40, while withdrawals before the junior year earned a mean grade-point average of 1.75. The percentage of students persisting was found to be highly related to the cumulative grade-point average, as follows: below C, 32 per cent persisted; C to C plus, 63 per cent persisted; C plus to B plus, 76 per cent persisted; B plus to A, 88.5 per cent persisted. Fifty-one per cent of the withdrawals did so in good academic standing; 24 per cent were on probation, 22 per cent were dismissed for academic reasons, and 3 per cent were dismissed for non-academic reasons.

2. University of Wisconsin study -- a high relationship was found between persistence and first-semester grade-point average, as follows: students persisting for eight semesters earned a mean average of 1.66 (C equal to 1.0 in this study); for six semesters, a mean of 1.26; for four semesters, a mean of 1.09; for two semesters, a mean of 0.71; and for one semester, a mean of 0.21. Of the withdrawal group, 50 per cent had some

scholastic action taken during their enrollment, compared with action taken for 22 per cent of the graduates. In the special study of students from the upper quarter of the high school class it was found that half of the students withdrawing from the University had failed to earn an average of C at the University. Furthermore, more than one-fourth of the group was in the bottom half of the University class.

3. Junior college study -- Twenty-three per cent of the junior college withdrawals, with ACE scores above the 50th percentile, earned a mean grade-point average of 1.60, below C. In all, 67.5 per cent of the withdrawals earned grades below C, and 46 per cent below D.

5. Evaluation of Existing Research on Retention and Withdrawal. The following observations are based on the studies of retention and withdrawal which have been reviewed in some detail. While the studies are very limited in number, they are judged to be typical and representative of the current studies in this area of investigation.

1. Attrition for all reasons is a serious problem, in view of increasing enrollments and shortages of college teachers and facilities.

    (a) Scholastic difficulties encountered by marginal students are not insignificant in causing attrition, but many capable students are leaving college with failing grades who should be succeeding.

    (b) In public institutions, stringent standards for selection do not appear to make any appreciable difference in attrition rates, or in time required to earn the degree.

    (c) Private control, high tuition, stringent selectivity, and small enrollments may all serve to produce lower attrition, but this is no solution to the needs of public education.

    (d) Increases in scholarship standards appear to help only slightly, and such actions are now under consideration in many institutions.

2. Current and past studies of retention and withdrawal are inadequate in many respects.

    (a) Census-type data are needed, but only as a baseline for evaluating experimentation leading to improvement in persistence rates.

(b) "Reasons for withdrawal" studies are generally acknowledged to be relatively meaningless, since "true" reasons are concealed in exit interviews and questionnaires, and remediation is difficult once the decision is made to withdraw.

(c) Dismissals are confounded with voluntary withdrawals, thus rendering meaningless or obvious many of the relationships found. When the two groups are separated, approaches to prediction, diagnosis, and remediation are different.

(d) "Breakthroughs" on the early identification and diagnosis of withdrawals can be cited in recent studies, but there appears to be a scarcity of research on remediation of withdrawal problems.

C. LEADS FOR NEW RESEARCH STUDIES, FROM CURRENT EXPLORATIONS, ATTITUDES, VALUES, AND BELIEFS

Students with particular configurations of beliefs, values, and personality characteristics appear to be more prone to fail and/or withdraw from college than others with different configurations, with the result that the persistent group is relatively homogeneous with respect to these characteristics. A number of exploratory studies are available for review, which provide leads for further research.

1. Use of the Inventory of Beliefs. A 100-item "Inventory of Beliefs" relating to ideas, social institutions, social groups, interpersonal relations and self-concept is discussed at some length in General Education -- Explorations in Evaluation (Dressel and Mayhew, 1957) and Methods in Personality Assessment (Stern, Stein, and Bloom, 1956). Three student groups have been differentiated by the inventory, two of which appear to differ with respect to rates of retention and withdrawal. The first group is labeled "Stereopath" and is characterized by authoritarianism, acceptance of authority as absolute, conformity in behavior, rigid orderliness, inhibition and denial of impulses. The second group is the "Non-stereopath" and is characterized by rejection of authority figures, non-conforming, flexibility in behavior, highly personalized social relationships, etc.

One study reported in Methods in Personality Assessment showed that extreme Stereopaths tend to withdraw from college, transfer, make poor adjustment to college, fail to seek needed help, etc. Twenty-three per cent dropped out of college, compared with only one per cent of the Non-stereopaths. Differences were also found between the two groups in instructor ratings, scholarship, and vocational preferences. Achievement in particular subject fields was also found to differentiate between the two groups. However, there is a strong possibility that Non-stereopaths withdraw in greater numbers from some of our public institutions (the non-conformists, rejecters of authority figures, etc.). The research problem of greatest interest is thus to find out who succeeds in which institutions, and how can help be given to would-be withdrawals, either before admission to the institutions of their choice or during counseling-orientation periods.

2. The Allport-Vernon-Lindsey Scale of Values is being used in current studies in ways which appear to provide insights into the problem of voluntary withdrawals. Early analyses of scores have showed some interesting differences in profiles for various groups of students, in relation to the faculty profile. Preliminary results from a study now under way may be reported at the conference.

3. The Minnesota Multiphasic Inventory, scored for manifest anxiety, independence, and responsibility, has been used experimentally in studies of attrition. Findings are that persistent students are more responsible, more independent, and less anxious than withdrawals, particularly among the female group. Anxiety scores and attrition rates were found to go up together.

4. Biographical inventories which are locally constructed, including attitude items, have been used with some success in post admissions testing, where frank responses could be secured. Some items which have been included among strictly biographical questions, and which are designed to elicit responses related to motivation, are the following: estimates of attrition (nationally) in the professional program in which the students are enrolled; rating of importance (to self) of completing the program; rating of importance which the family attaches to the student's completing the program; family influence in choice of profession; expected four-year grade-point average, in total class distribution; rating of chances of completing program; indication of point at which the student feels he "has it made."

A nine-page inventory of this type was used experimentally in a study of retention and withdrawal in schools of medicine and dentistry. Potential withdrawals were identified fairly readily by the attitude items, many of whom did in fact withdraw during the first year. Students with weak motivation, uncertainty of choice of profession, insecurity concerning adequacy of preparation, and unrealistic goals are identified by this self-report procedure in the post-admissions testing. If the testing were moved back to the pre-admissions screening process, it is unlikely that frank answers would be obtained. Students have in common the motivation to be admitted to the program. Beyond admission, some have motivation to achieve the degree, but not for the hard work involved; some are motivated to please their parents, but not to achieve for their own satisfaction; some wish to save humanity through medicine or other professions, but are not motivated to learn the more down-to-earth skills and knowledges.

Other problems of motivation and adjustment which may be uncovered by biographical inventories include those related to unrealistic motivation to achieve in college. Examples are students with outstanding high school records who attend colleges which select the entire freshman class from the upper ten per cent; students who were outstanding leaders and/or athletes in small high schools, who are lost in a large university freshman class.

Institutional or Organizational Characteristics Related to Retention and Withdrawal. A major gap in Iffert's study of 147 institutions results from his failure to assess the extent to which variance in retention is associated with institutions, rather than individuals. Problems of remediation are different, depending upon the sources of variance -- do we counsel students in the hope of changing behavior, change institutional policies and practices, and/or revise procedures for selecting students?

An unpublished study performed for the Air Force demonstrates the need for examining organizational variance associated with retention and withdrawal. The usual census-type studies, accompanied by analyses of reasons and causes, had been performed in the various commands and sectors of the Air Force, with no usable results. Studies of airman characteristics related to retention showed only that the "persister" was one who had re-enlisted after his initial tour of duty, was older, married, held higher rank, etc. The findings were thus similar to those from college studies of retention -- if the student can be held beyond the first term or year, he is a good candidate to persist. A study was then undertaken to assess the significance of variance in reenlistment rates associated with group or organizational factors. Tests were made for the significance of variance by base, command, mission, Air Force specialty, and organizational unit. "Group" rates were found to be highly reliable over time, and differences between rates for the various types of groups were found to be statistically significant in all cases.

From these findings came a study of the factors of administration, supervision, and work requirements, as well as facilities and services, in an attempt to improve conditions favoring reenlistment (or persistence). Airman ratings of and opinions about local policies and conditions were obtained, as one step in initiating changes, with attention focused on comparisons of bases with high and low persistence rates on the various factors studied.

Another promising lead for the suudy of institutional characteristics related to retention and withdrawal is the use of the *College Characteristics Index* constructed by Pace and Stern, (1958 (b)) in analyzing the institutional variance associated with retention rates. Thirty 10-item scales are derived from the index, corresponding to the environmental press counterparts of 30 personality needs taken originally from Henry Murray's (1938) classification, and used by Stern in his *Activities Index* (1958). Five clusters of institutional variables have been identified in previous studies -- Humanistic, Scientific, Practical-Status Oriented, Human Relations - Group Welfare, and Rebelliousness. The relating of the 30 scales to retention rates, over institutions and for individuals within institutions, should produce insights into institutional variance associated with persistence. Studies of the Index have shown that variance in scores between institutions is significantly larger than within-institution variance. It is possible that reliable variance will be found by types of institutions, programs within institutions, etc.

Uses for such study results are several: the pre-admissions advising program, for a realistic picture of the "educational press" characterizing the particular institution to which the applicant seeks admission; modification of policies or practices leading to high (or low) institutional scores on scales related to retention rates; preventive counseling programs for students who persistence is likely to be adversely affected by the particular educational press; early identification of students with unrealistic concepts of the educational press of the institution he has chosen to attend.

D. NEEDED RESEARCH BY INDIVIDUAL COLLEGES

A philosophical framework which has been agreed upon by both faculty and administration is sorely needed, in order to evaluate research on retention and withdrawal performed by any particular institution. In developing such a framework, the following kinds of questions need to be answered frankly and fully:

1. Can the college "afford" to admit students whose objectives will be met with less than a four-year degree program; e.g., girls who marry and withdraw after one year; students who seek away-from-home dormitory experience for a year or two; students seeking "some college training," without degree motivation; men who withdraw for military service or employment after a year or two; financially shaky students who will be in and out of college for six years or more?

2. Does the faculty feel that a certain percentage of dismissals or probationary cases for academic reasons is "healthy," regardless of the rigorousness of selection procedures? Is the percentage fixed or variable, depending upon the quality of students?

3. How does the college regard the first semester of the freshman year -- as a rough, do-it-yourself proving ground, followed by immediate dismissal of those who can't make it? or as period of difficult adjustment for the students, some of whom will require a year or more to find themselves?

4. Does the college believe that the students must do the adjusting, in terms of the educational press, or is the college willing to examine its policies and practices critically and objectively, as a part of its self-analysis? Should selection procedures screen out the probable withdrawals, in terms of predicted poor adjustment to the particular college environment? If not, should likely withdrawals have help proffered them, before they encounter trouble? Or, should students fend for themselves after admission?

5. What is a reasonable retention rate for the college to try to achieve, in terms of goals, program, selection procedures, etc.? How can the college take steps to achieve this rate?

A second critical need for each college to meet in planning research on retention is the development of a classification system for withdrawals. The current lumping of withdrawals for all reasons may be obscuring relationships with non-academic variables, while producing spurious relationships with high school grades and test scores. As a start, the following classification is suggested:

1. Academic dismissals who "deserve" to fail, from the marginal group which would be eliminated under higher admission standards;
2. Academic dismissals whose prognosis was good -- good high school record, satisfactory test scores, normal adjustment, etc.;
3. Voluntary withdrawals for reasons compatible with the college's goals, e.g., completion of short-term programs, placement in jobs, marriage, etc.;
4. Voluntary withdrawals for reasons of dissatisfaction or poor adjustment, constituting a loss to the college and to society;
5. Transfers to other collegiate institutions in good standing, to continue normal programs;
6. Temporary withdrawals, resulting in slowed progress toward the degree, for reasons of finance, health, etc.

A third area of investigation by individual college, which is more in the nature of research than the first two areas, is the development of techniques for the early identification of potential withdrawals. Some leads are provided again by exploratory research on attrition in the Air Force advanced flying training program. It was found that when overt behavior associated with the decision to drop out occurred, it was too late for remediation. In other words, the student's taking his application to withdraw to proper authorities represents the last, final step in a long sequence of behavior. The decision to withdraw is made before school authorities are consulted, and seldom can it be reversed by counseling, change in program, relief from environmental factors, etc. The problem, then, is one of developing techniques for measuring symptoms of behavior leading to drop-out, before the student makes the irrevocable decision. The real reason for withdrawal from the Air Force program was often fear of flying, disenchantment with pilot status, family problems, etc., but symptoms appeared early as extremely low ratings of food service, recreational facilities, local administrative policies of the irksome sort, and other environmental factors. Use of simple rating scales for base facilities and services uncovered potential withdrawals from the program, in time to give counseling or other assistance before the final decision was made regarding withdrawal.

Group survey techniques are needed to chart events and conditions leading to withdrawals, to learn times during the semester when pressures are building up in the student body -- pressures which withdrawal-prone students are least able to resist. We also need to know peak times for withdrawal applications during the semester, in relation to pressures. With a dormitory system, the use of survey techniques over a period of time is easier to accomplish. With a commuter college, contacts with students are less easy to achieve. However, there is usually some course in psychology or orientation for freshmen in which all new students enroll. It is suggested that the group survey might include ratings of housekeeping services (food and housing), student personnel services (activities, counseling, student placement), instructional services (library, advising, study help), and faculty (teaching, grading, workload).

Charting of points of high and low morale can be useful to the college in planning a counterattack on the withdrawal problem, either for the whole student body or for students identified as potential withdrawals. Possible actions include the massing of counseling resources at critical times, scheduling of faculty advising periods, moratorium on home work assignments, group therapy sessions, etc.

Individual identification studies which should be carried out simultaneously with group survey studies are the following:

1. Increased study of the use of post-admissions biographical inventories, with self-appraisal items; application of existing techniques for homogeneous keying of inventory items to obtain scales which can be related to retention;

2. Rating studies of expected persistence of new students at the time of admission and initial registration, by admissions officers, faculty advisers, counselors, housemothers, college physicians, etc., in order to find out how well the admissions-orientation team can predict freshman attrition in the various categories of drop-out;

3. Experimental use of inventories of values, beliefs, and attitudes as part of placement testing, to identify students with extreme profiles of scores who may experience difficulty in adjustment to the college environment and/or in changing or maturing.

Experimental studies of remediation techniques need to accompany the early identification of potential drop-outs, to find out if withdrawal rates in the various categories can be reduced by early identification and remediation. Priorities might be given to the various categories of withdrawal, for action research pointing to remediation. If the "predictable" failures and withdrawals for "acceptable" reasons are ignored, priority might be given to the following:

1. Failures who should have succeeded: an analysis of the characteristics of this group is needed, to secure leads to remediation. Some rather obvious leads are uneven profiles of test scores or grades for students with satisfactory general ability (problems with reading speed, notetaking, spelling, etc.); uncertainty bordering on anxiousness concerning occupational goals; unrealistic load of outside employment in relation to course load; poor living arrangements.

2. High ability voluntary withdrawals: students with expressed dissatisfaction or lack of interest often characterize this group. Can special counseling, planned faculty contacts, honors programs at entrance, or aid-to-other students programs reduce withdrawal in this category of students?

3. Transfers and temporary withdrawals: withdrawals in these categories may be unpredictable, but can the number be reduced at the time of application for withdrawal by allowing special arrangement of courses, approving a loan application, etc.?

4. Voluntary withdrawals from the middle ability group: can predictions be made from the value-interest measures? If so, can these students be matched with faculty advisers with similar profiles? Can they be programmed in special sections or courses to ease adjustment to college?

Summary of Need for Local Studies. The following types of investigations are suggested as necessary for the individual colleges seeking to understand and control retention and withdrawal:

1. Securing of normative data to establish a baseline for retention and withdrawal;

2. Development of a philosophy of retention and withdrawal;

3. Classification of withdrawals as voluntary/involuntary, remedial/non-remedial, temporary/permanent, loss/gain, etc.;

4. Institutional self-analysis, in terms of (a) educational press and (b) student evaluation of facilities and services;

5. Study of techniques for the early identification of potential withdrawals;

6. Action research program for the remediation of various categories of withdrawal.

E. NEEDED INTER-INSTITUTIONAL RESEARCH

A repetition of the Iffert study appears to be needed, with major attention given to institutional variance associated with retention and withdrawal rates. A new study should include the following changes or additions:

1. Refinement of "withdrawal" group to eliminate dismissals and predicted graduates, as a minimum (the alternative is to use the "graduation in eight semesters" group only);

2. Inclusion of institutional variables from Pace's College Characteristics Index or similar instrument; use of institutional ratings (if reliable) of other variables included by Iffert (ratings of facilities, services, instruction), income variables, other administrative-control variables;

3. Special junior college analysis, perhaps for California junior colleges alone.

Second, a study is needed of the effect of various policies for academic probation and disqualification on voluntary withdrawal rates, particularly in relation to freshman attrition.

Finally, a major cooperative study of retention, withdrawal, and transfer is needed in the three major segments of higher education--junior colleges, state colleges, and the university -- which will involve a long-range follow-up of students seeking the baccalaureate degree. Groups in the three types of institutions should be matched for eligibility for admission to two or more segments of higher education;

living arrangements -- at home, away from home but non-college residence, and dormitory; family income; field of study; sex; age and maturation level; and value patterns. The study would be designed to answer the question of whether certain identifiable groups of students would persist in larger numbers to the baccalaureate degree if they remained at home in a community college for lower division work, with smaller classes, more counseling, classroom-oriented teachers not unlike those encountered in high school, with less independent study, less academic competition, less radical changes in behavior expected, etc.

As competition increases for places in entering classes in senior institutions, it becomes increasingly important that we admit students who not only can but also will complete programs which are the primary mission of the college.

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STUDENT VALUES AND THEIR RELATIONSHIP TO THE COLLEGE ENVIRONMENT

GEORGE STERN
Professor of Psychology
Syracuse University
Syracuse, New York

Values in Higher Education

It is a commonplace for psychologists and educators alike to deplore the gulf between psychological theory and educational practice. From the time that Ebbinghaus first demonstrated a lawfulness even in the learning of nonsense syllables by rote, there has been a firm conviction that experimental psychology would provide the propaedeutic to education. Viewed in this light the current interest in teaching machines is simply the latest revelation to those who have kept faith in the efficacy of technique.

The limitations of technique or method-oriented studies seem so apparent it is a wonder that they should be pursued so relentlessly. People live and learn under the most varied circumstances, sometimes because, but often in spite of, the conditions which confront them. The ideal counterpart of the teaching machine is, no doubt, a learning machine, but it seems improbable that such a depressing outcome is likely to attend our present efforts even in this brave new world. Students will continue to take as much as they are prepared to accept from classroom instruction, regardless of the particular devices employed as the vehicle for their education. As someone once said of learning theorist Hull's own celebrated maze-learners, "In the final analysis, the Harvard rat does as it damn well pleases."

It seems quite unlikely that we can succeed in a quest for the magical procedure which will bring every student to the level of scholastic excellence. It seems even less likely that some secret formula awaits discovery which will stimulate every student to the level of passionate scholarship. What is needed is an understanding of the psychological processes at work in the classroom--the expectations which students bring, and the kind and degree of fulfillment for these expectations which is offered by the instructor. This can lead, perhaps, to a clarification of the relationship between the student's objectives

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and the school's, and the circumstances under which these can be made to coincide, so that both the instructor and the student can come to share the reciprocal sense of fulfillment and satisfaction represented in the pedagogic ideal.

Jac—
Riesman

The search for this ideal communion between teacher and pupil seems to lie unexpressed, but close to the surface, in many recent discussions of American education. Jacob's (1957) striking documentation of the failure of the American college to alter student values is even more noteworthy for the absence of discussion on the role of the schools as an instrument of indoctrination. David Riesman (1959 (b)) has recently commented on the poverty of goals in students and faculties as the mirroring of a similar large-scale malaise in American society. Explicit concern with the techniques for modifying student attitudes and beliefs certainly makes little sense when we are unprepared to specify either the direction or the content for such changed values.

The clue to this omission seems to lie in our misplaced concern with the absence of student motivation as students--with the widespread passivity and indifference to the very issues which we think ought to strike deeply into the inner recesses of every individual--when we should be directing our attention to the substantive values actually held by the students themselves. As Robert Hellman (1959) noted recently, age criticizes youth today not for its rashness but for its premature senility. The absence of intellectual excitement among undergraduate students is indeed evident, but this is more than a matter of ineffectual techniques in the classroom. The very "privatism" to which some observers refer is a symptom of the gulf between the learner and the learned, rather than of deficiencies in either of them.

A number of factors seem to have contributed to this classroom distance. On the one hand a large proportion of the university faculty is becoming more and more inaccessible to the undergraduate student. As the financial contribution of the professional scientist to higher education increases--one observer estimates it to constitute approximately one-fourth of the entire budget for higher education in this country (Glass, 1960)--his participation in the college classroom decreases. He is actively encouraged to develop his skills as a research administrator with every inducement known in the academic marketplace (Caplow and McGee, 1958). The major teaching experience of an increasing number of university scientists is being limited to their days as graduate assistants and instructors.

One of the consequences of this trend towards professionalization is that, as Riesman has said (1959 (a)), the life of the businessman and the life of the professor have become less and less distinct. This gradual disengagement of one sector of the faculty from the classroom and its values has been matched in their own way by the growing disenchantment of the students. Ever greater numbers are being admitted to college today who view education in a far different light from their predecessors of the pre-war years and earlier. The strident voice of Jencks (1960), raised in vigorous undergraduate protest against the bogus academic culture he finds today at Harvard, arouses more wistful nostalgia in the professors he castigates than it does righteous indignation among the fellow students for whom he would speak. The legend of Veblen's rooms, ancestral home of a generation of anti-Babbitt naturalists seeking life without Father, evokes no response from many of these young people. College has come to represent the necessary, but undesirable, continuation of secondary schooling-a more specialized preparation for the job in which one will find personal satisfaction, security, and prestige. Under these circumstances the college can never become an end in itself but only a means which must be borne as swiftly and painlessly as possible. Small wonder, then, that the teacher is appalled by the lack of intellectual curiosity and probing analysis which he associates with his own educational experiences. He is even denied a response based on the desire to demonstrate competence in the mastery of technique or subject matter, since so many of his students seem convinced that the benefits of college education lie in residence rather than in reasoning. Today's student comes prepared to submit to irrelevance and boredom in the classroom; he is only rarely entertained, let alone beguiled.

Non-Directive Teaching in the College Classroom

The introduction of Rogerian non-directive counseling in the 1940's (Rogers, 1942) laid the groundwork for a new orientation towards college teaching which proved highly attractive in the post-war years. The search for some way of closing the gap between students and instructor in the classroom seemed to have found an answer supported by psychological theory, educational practice, and ethical belief. The essential characteristic of non-directive therapy lies in the forthright adaptation of technique to purpose, that purpose being to facilitate the client's self-cure. The change in terminology introduced by Rogers, from patient to client, is in itself a reflection of the final breech with prior traditions and ways of thinking derived from organic medicine: patients suffer from illnesses which can be relieved by the art of the healer; clients enlist the services of a professional to aid them in achieving a purpose they have determined for themselves.

Rogers

Aspects of this position were already implicit to a degree in earlier forms of psychotherapy. The now classic study of Lewin, Lippitt and White (1939) demonstrating that acts of student aggression against one another are most severe under rigid authoritarian leadership and absent in a democratic classroom atmosphere, lent further support to the new position. But perhaps the most important factor of all was the post-war reaction against manipulation and coercion then making itself felt in the permissive doctrines of preschool pediatrics.

In some hands, the student-centered classroom introduced an exciting forum for the mutual education of teacher and student alike, contributing to the clarification and reduction of the cultural distance between them (cf. Riesman, 1959 (a); Jencks, 1960). A recent analysis (Stern, 1960) of seventeen studies of student-centered instruction disclosed eight reporting quantitative evidence of favorable attitude change associated with participation in a non-directive class, none involving negative attitude change. But the evidence for the most part suggests that the procedure is ineffectual as a technique for teaching substantive material. Only one study could be found which actually demonstrated that student-centered instruction was associated with a greater mastery of subject matter, and that was in a psychology class (Faw, 1949). Three investigators report significantly less information acquired by students in non-directive classes than in more autocratic drill sections (Asch, 1951; Brookover, 1943; Geutskow, Kelley and McKeachie, 1954).

More to the point, however, is the fact that eleven studies reporting student reactions to student-versus-instructor-centered techniques are divided almost equally between favorable, unfavorable, and mixed responses. This may be due to some extent to the quality of student-centered instruction encountered by these students. In its heyday non-directivism in the classroom became something of a cult of leaderless listening, a defense for those whose feelings of personal inadequacy as teachers found refuge in the relinquishing of control rather than in its arbitrary exercise. But studies by Wispe (1951) and Patton (1955) both demonstrated that student attitudes toward particular classroom atmospheres are highly selective, student-centered instruction being preferred by students who reject traditional sources of authority, have strong needs for demonstrating their personal independence, and are further characterized by a high drive for academic achievement.

This particular combination of characteristics--rebelliousness and intellectuality--suggests that we may be dealing with something broader and more complex than a mere preference or distaste for group discussion. That this was indeed the case was demonstrated in a series of studies which appeared subsequently.

The Antidemocratic Student in Liberal Education

Dressel + Mayhew

Ten years ago the American Council on Education sponsored an inquiry into general education under the direction of Dressel and Mayhew (1954). One of the areas of concern in this investigation was the measurement of objectives associated with emotional and social adjustment. The committee of counselors, professional evaluators, and human relations teachers charged with this area promptly decided that the concept of personal adjustment was too relative for its measurement to be standardized by objective questionnaire. Thrilled by our forthrightness (and startled by our unanimity) the committee turned eagerly to the definition of attitudes, values, and personality characteristics to be regarded as a desirable outcome of general education.

Many months later a more chastened group concluded itself to be more united in our dislikes than we were in our preferences, and the decision to measure virtue by the absence of vice was born. The Inventory of Beliefs (Dressel and Mayhew, 1954) was the consequence, a questionnaire designed to appraise the degree of acceptance of a collection of essentially antidemocratic attitudes and values opposed to the objectives of general education. Related generically to the California F-scale (Adorno et al, 1950), the Inventory was not conceived as a broad-spectrum value measure but as an index for the identification of a personality syndrome composed of recognizable attitudes, values, opinions, needs, and psychological mechanisms as well as beliefs. For the purpose of our present discussion, however, it will suffice for it to be identified as a collection of statements reflecting a pattern of small-town conservatism characterized by intense nationalism, fundamentalism, and racism.

The first surveys with this instrument revealed a general reduction in such beliefs during the freshman year in most of the participating colleges, but the differences between schools were so great that the scores for entrants at some were far higher than the terminal scores of students elsewhere. In two elite colleges low-scoring stereopathic students, so-called for their endorsement of the stereotyped clichés, banalities, and platitudes incorporated in the Inventory, were found to be significantly less interested and less able in the social sciences and the humanities than the high scorers and more likely to have withdrawn from school by the end of the first year.

Although the endorsement of the beliefs and opinions contained in the Inventory was considered to be evidence of identification with a particular value system--an assumption seemingly supported by the selective rejection of art, music, and social studies--it may also signify no more than an indiscriminate tendency to endorse any statement of belief. An even more serious question was raised regarding the interpretation to be placed on the low scorers who rejected the stereopathic beliefs. It seemed unreasonable to assume that this rejection implied endorsement of the antithesis of these beliefs, when it was also the only response available to those prepared to reject both sides of the ideological coin.

Out of these considerations a modification known as Form T was developed concomitantly at Chicago which incorporated both the original statements in the Inventory and their ideological inversions. The comparison of scores on the two sets of items makes it possible to identify four groups of students:

stereopaths, who explicitly endorse statements reflecting nativist-fundamentalist conservatism, and reject the beliefs held by

anti-stereopaths, who hold equally firm convictions with respect to beliefs which may be characterized as a more urban, internationally-oriented relativistic liberalism, and reject the original stereopathic items,

irrationals, who indiscriminately accept both types of items despite their ideological incompatibility, and

rationals, who reject the values implied by either set of items, presumably out of regard for their illogical extremism.

These changes were intended to clarify the *stereopathy* dimension by eliminating respondents whose general tendency to agree (the *irrationals*), or to disagree (the *rationals*) had caused them to be confounded with the extreme scorers at either end of the earlier Inventory of Beliefs.[2] Students identified as *anti-stereopaths* on this revised instrument were found to share characteristics with the Wispe (1951) and Patton (1955) undergraduates mentioned previously who had indicated a preference for nondirective teaching methods. Gladstein (1957) devised a multiple-choice Study Activities Questionnaire based on expected differences between *anti-stereopaths*, *stereopaths*, and *rationals*, and administered it to 104 representatives of each type at Chicago and Syracuse. The *anti-stereopaths'* item responses indicated that they enjoyed cooperative study because they liked other viewpoints, liked discussions, and liked being with other people. They also enjoyed having the class discuss side issues, and took notes of stimulating and challenging ideas which they intended to explore later. The *stereopaths*, on the other hand, found theoretical discussions in class particularly frustrating and preferred a straightforward exposition by the instructor to any other form of classroom activity. They disliked studying with others because this always meant a bull session in which nothing definite was ever settled. The differences in study activity preferences between the two groups was highly significant and not related to the school they were attending.

There is a good deal more known about these two kinds of students at both institutions. Elsewhere (Stern, Stein and Bloom, 1956; Stern, 1960) we learn that the *anti-stereopathic* undergraduates tend to be first generation Americans from professional homes in large cities. Unlike their parents, who are most often Jewish in faith and Democrat in hope, they declare themselves to be independents with neither church nor party affiliations. These students were at the upper limit of their class range in scholastic aptitude, had broad cultural and intellectual interests, and did exceptionally well in the social sciences and humanities where they expected to develop their ultimate professional career. Nevertheless their instructors found them difficult to handle due to their argumentative manner, rebelliousness, and impulsiveness. A Citizenship instructor at Syracuse described a special class composed exclusively of anti-stereopaths to which he had been assigned without knowledge as having a bargaining, critical attitude, with many questions about the administration of the course and its purposes. In time, however, he came to delight in their intellectual independence despite their proneness to haggling. These are the people, he says, who "would fight about how to run the world while other people run it." (Stern, in press)

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[2] Form T also has limitations insofar as it confounds (1) qualified and unqualified generalizations, (2) coercive and non-coercive types of action, and (3) violent with non-violent modes of expression. A new instrument to be known as the S-A Scale (stereopathy-acquiescence) has been devised which attempts to take these factors into account. It also contains a parallel set of non-ideological items. Sponsored by the Social Sciences Research Council Committee on Personality Development in Youth, it has been prepared by a sub-committee consisting of Richard Christie, Hugh Lane, Nevitt Sanford, and Harold Webster, under the chairmanship of George Stern and assisted by Sally Donovan and Joyce Freeling.

The undergraduate stereopaths tend to be the obverse on almost every one of these characteristics. Their families have been in this country for several generations, are of relatively low socio-economic status and come from smaller towns and rural areas. They share their parents' religious convictions which are most often Catholic or fundamentalist or evangelical Protestantism, and their political affiliations which are strongly Republican. On a scale indicating degree of acceptance of people of other nationalities they were the only group of students in favor of excluding some people from American citizenship. Although average in scholastic aptitude, they did unusually poorly in the Social Sciences and Humanities and expressed a strong dislike for both of these areas. Their academic goals are explicitly vocational and oriented towards business, law, medicine or engineering. Obsessive in their concern with detail, they prefer studying at the same place and time each day, in a neat and orderly room, in accordance with a rigid study schedule. They decry the lack of professional courses in general education programs, and have also objected to the educational inadequacies of instructors who tolerate smoking in the classrooms, don't take attendance, and expect students to answer their own questions.

It is somewhat ironic that non-directive classroom techniques should be so successful with the anti-stereopathic students who are least in need of additional motivation, in contrast with the stereopaths, who are only further alienated by such procedures. Dressel and Mayhew (1958) found that a section of anti-stereopaths taught Social Science by non-directive methods performed significantly better than the rest of the student body enrolled in this course. Conversely, the same methods applied in a section of stereopaths produced such violent reactions by the fifth week that the instructor felt impelled to shift to a highly rigid lecture method.[3]

The same Citizenship instructor quoted previously described a class of stereopaths as lacking in curiosity and initiative, difficult to get into discussion, and providing a constant temptation to be lectured.

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[3] Comment in personal communication.

Ultimately, however, this instructor succeeded in arousing an active response from these students and bringing their achievement on the common final objective examination to the same level as the noramlly superior *anti-stereopaths*, although *stereopaths* assigned randomly to other conventional sections of the course did more poorly than their classmates in those sections. His success in this regard seems attributable to several techniques described in the daily diary he maintained for the experimental sections. These include the continued use of direct questions, a refusal to lecture, and the encouragement and acceptance of any student response. But perhaps the most effective of his devices was his vigorous defense of absurd issues, as in the case of a discussion about women in politics in which he took the position that women were useless, refused to call on any of them, accepted and agreed with all male opinions, and added to the slurs until "every girl in the class was ready to tear the plaster off the wall." On other occasions, he took the position that voting was useless, favored slavery, and defended totalitarianism. From these impasses, he said, the *stereopaths* "finally broke down and simply asked one interpretative question after another about the course," the barrier between students and instructor having finally begun to dissolve (Stern, in press).

Environments for Learning

The significance of this study lies in the fact that the pedagogical techniques which in the end proved effective with these students cannot be described as either directive or non-directive. Left to their own devices in an area for which they are ill-prepared and normally antagonistic, these students would have perpetuated their deficiencies. Assigned *en bloc* to an instructor prepared to cope with their peculiarities, they enjoyed a profitable learning experience in a classroom atmosphere which provided stimuli specifically appropriate for them. But it is significant that the techniques employed in this case have neither name nor classification. We have no formal system of pedagogical theory, and know almost nothing about the relationships between particular procedures and their educational consequences.

The implication is clear. We need to know more about personal characteristics of students that are of significance for learning, and we need to know more about the various kinds of educational experiences which influence students' growth and development. The potential contribution of the social scientist to research in higher education suggested by Newcomb's (1943) monumental pioneering study of the impact of college on student values is finding a rich measure of fulfillment today. Significant studies are now in process in a number of institutions, including Amherst, Cornell, Harvard, Michigan, MIT, Syracuse, Vassar, Wellesley, and Yale. A synopsis of several of these current studies has been prepared by Bidwell (1960). Barton (1959) has described and analyzed many of the instruments being used in these studies, providing a very useful commentary on problems involved in studying the effects of college education.

Impact of college studies

Bidwell

Barton

These effects have generally been studied in terms of changes in test scores over a period of time for an entire class or a sample of one. There are a few reports of changes taking place for more homogeneous groups of students being trained in some special field, but none which compare people in several such fields systematically on comparable dimensions. The remainder of this paper will be given over to such an analysis, and to the measurement of factors in the college environment which may be associated with such changes.

Measuring Devices

The data to be reported are based on the Activities Index[4] and the College Characteristics Index[5,6] (Stern, 1958; Pace and Stern, 1958(b)): conceptually parallel instruments designed to measure the personality *needs* and environmental *press* concepts introduced by Murray (1938). *Needs* refer to organizational tendencies which appear to give unity and direction to personality. There are other terms which have been applied to such tendencies; our interest here is in classifying the unifying themes which may be inferred from observations of a person's actions. Consider, as an example, an isolated action, such as seeing someone pause to look at himself as he passes a mirror. This may have any one of several meanings. But when we also learn that this person spends a great deal of time in personal grooming, tries to make his handwriting decorative or unusual, and likes to think about ways of making his name sound more striking or different, this begins to suggest to us that a strong narcissistic tendency unifies these diverse acts.

Press refers to organizing elements in the psychological environment which are the counterpart of the personality *need*. Thus, when we are told that there are frequent receptions, teas, or formal dances at a college, this may signify many things, but when we also observe that poise and sophistication are highly respected by both students and faculty, there are mirrors in many of the public rooms and halls, and that there are definite times each week when dining is made a gracious social event, we may feel somewhat justified in assuming that a narcissistic preoccupation with one's person is greatly encouraged on this campus.

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[4] Devised initially in collaboration with Benjamin S. Bloom, Morris I. Stein, Hugh Lane, Mary McCord, Sharon Goldberg, Paul Baer, James Sachs, Dorothy Whitman, and James Abegglen, for use in studies of student personality assessment at Chicago (Stern, Stein and Bloom, 1956). Subsequent revisions have been contributed to by Charles Van Buskirk, Fred Carleton, Walter Stellwagen, John Scanlon, Louis DiAngelo, and others.

[5] Developed in collaboration with C. Robert Pace, with the assistance of Anne McFee, Dagny Henderson, Barnett Denton, Sally Donovan, Harriett Dorn, Eugene Farber, and others.

[6] A form suitable for use in secondary school environments, the High School Characteristics Index, has recently been prepared with the aid of John Dopyera, Vernon L. Woolston, James Lyons, and Eva K. Woolfolk.

The present forms of the two indexes consist of 300 items of these kinds distributed among 30 scales of ten items each.[7] The scales are systematically related to one another in a manner reflected in the charts shown in Figure 1. Each wedge in the circle corresponds to a scale. Those close together are highly correlated; at 90° apart the relationship approaches zero, and becomes negative at 180°. Scale scores are shown in each wedge from zero at the center to a maximum of ten at the periphery. The pattern of scales in each sub-area of the circle suggests an interesting internal structure consisting of peculiarly intrapersonal and depressed activities at the lower left of the circle which become increasingly sociable towards the top and increasingly outgoing and assertive towards the lower right. Refactoring these clusters has yielded two independent dimensions for the circle, one of which can be represented by a diagonal from upper right to lower left which will be referred to as dealing with *impulse expression* and its control. The second dimension is on the diagonal from upper left to lower right and may be called *dependency needs vs. autonomy*. The grid at the bottom of the chart summarizes scores on a group of scales which yield a third factor independent of the two in the circle, dealing with *intellectual needs*.

The two profiles shown in Figure 1 were both obtained from freshmen medical students. The one on the left suggests a distant, self-assertive individual with fantasies of personal achievement and intellectual precocity. The faculty noted independently that this student was antagonistic, individualistic and dreamlike, with a suggested capacity for work which he never fulfilled. The profile to the right is at the opposite extreme in suggesting withdrawal, depressed affect, lowered self-esteem, minimal drive level, and modest intellectual characteristics. This student was an early withdrawal who complained of the excessive work.

Although the scoring and presentation of Index results are seemingly complex, the machine shown in Plate 1 has been designed to accept test response data from an IBM Test Scoring Machine and present the processed output in the form of punched IBM cards and 8½x11 profile graphs, such as those of Figure 1. It is also capable of assembling multiple item scale responses from other tests and transposing them to punched cards or visual graphs.

Personality Needs Related to Professional Training

Table 1 lists Activities Index needs scale means, grouped under the three general factors, for students and professionals in four fields: business, education, engineering, and medicine. The students are

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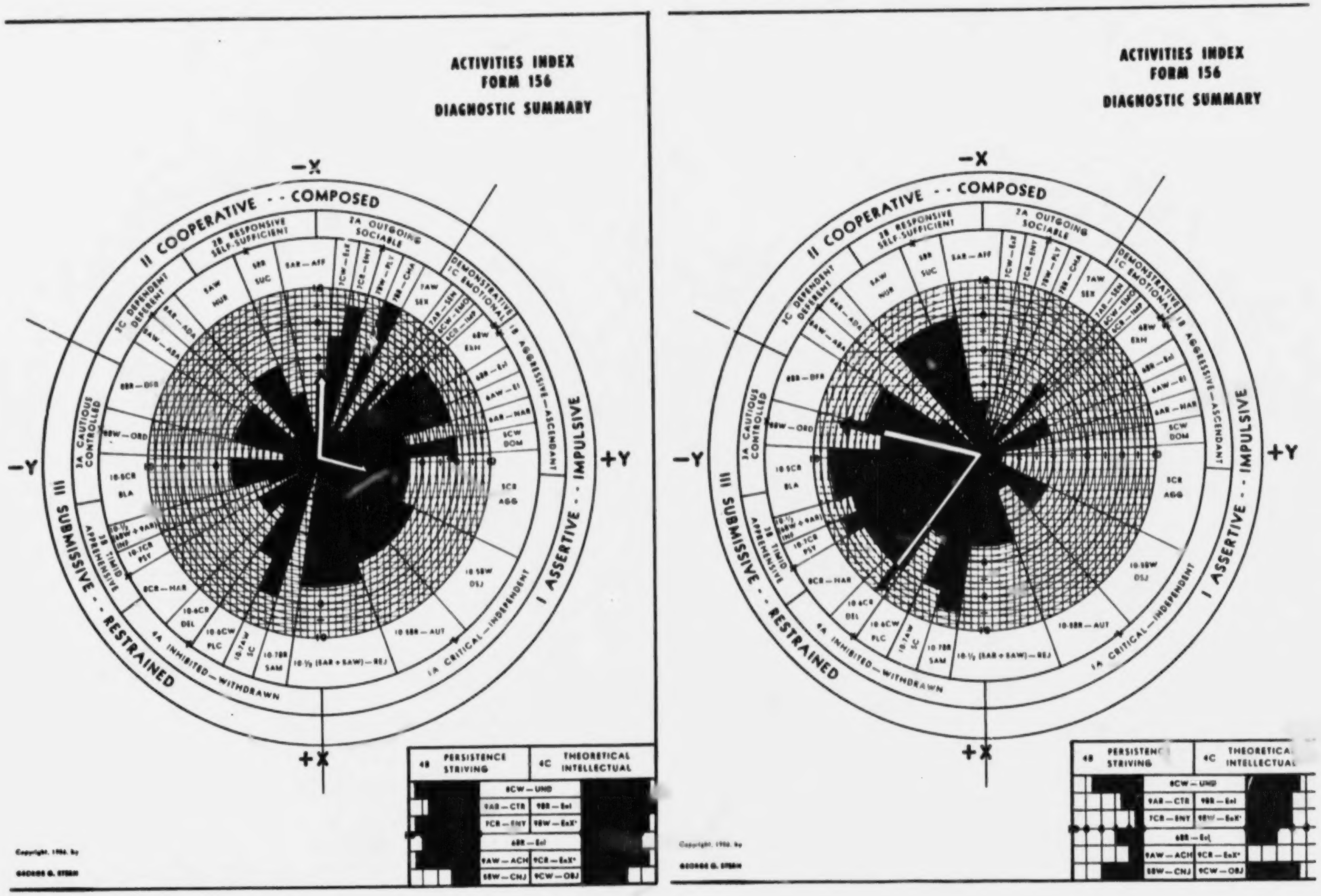
[7] The scales have an average reliability of .67 which may be considered reasonably adequate for scales of such short length, and a high degree of internal consistency as reflected in an average item discrimination index of .54.

Figure 1



Profiles of two medical school freshmen. Reproduced by permission of Association of American Medical Colleges from G. G. Stern and J. C. Scanlon, "Pediatric Lions and Gynecological Lambs," in H. H. Gee and R. J. Glaser (Eds.), "The Ecology of the Medical Student," J. Med. Educ., 1958, 33, Part 2, 12-18.

Plate 1

Electronic equipment linking IBM test scoring unit and key punch in a processing chain for scoring, computing, graphic profiling, and card punching of multivariate test data.

undergraduates in varying years in each case except medicine where the subjects were in their fourth year of medical school. The professionals consisted of samples of equipment salesmen, public school teachers, industrial research chemists, and general practitioners. The high values on each line have been indicated thus (∿∿∿); low values are underlined. For example, need achievement, one of the intellectual needs, is significantly higher for the industrial research chemists than for most other groups. The teachers, on the other hand, have the lowest score on this variable but are probably not significantly lower than any of the others except the industrial chemists.

The specific scales contributing to differentiation between the eight groups are summarized for convenience by name in Table 2.

As Siegelman (1957) had found previously for samples of army officers, theology students, and graduate students in chemistry, the test responses identify a number of personality characteristics peculiar to each of the vocational groups studied here. An analysis of variance of the three major dimensions of Tables 1 and 2 indicates that the students and the professionals in the four fields differ significantly among themselves on each of the three dimensions. These differences exist only between fields; students as a group do not appear to differ from professionals in general, despite the gross differences in age, with the possible exception of impulse expression. In this area, the students have higher scores on the average than the professionals, each individual group of students showing a higher degree of impulse expression than the professional counterparts in their own field, except for engineering where students and professionals are alike. There is a similar interaction between students and professionals in their intellectual needs, although this time it is the professionals who have the higher score in each field, except education where the teachers show weaker intellectual needs than the students matched with them.

The differences between fields summarized in Table 2 are somewhat more extensive among the practicing professionals than among the students, suggesting a greater degree of role differentiation among the older, more experienced group. Furthermore, the characteristics of students and professionals do not appear to be a simple function of one another. Although the differences between them reflect the influences of self-selection to the field and the impact of school and experience to unknown degrees, they suggest a process of maturation and development rather than one of selective narrowing or conformity.

The foregoing analysis is limited by the diversity of samples employed; the professionals from business and engineering, for example, can hardly be considered representative of these broad fields. A better illustration of the effects of training on the processes being measured here is provided by data from two successive classes of medical students tested as freshmen and again as seniors. The two classes do not differ from one another either as freshmen or as seniors, but they both show very considerable changes over the four-year period. Table 3 illustrates these changes for the combined classes, revealing a broadening

Table 1

Activities Index Scale Means* for Eight Groups of Subjects at Two Levels of Experience in Four Professional Fields

Dimension	Need Scales	Students					Professionals					Com-bined
		Bus	Educ	Eng	Med	Total	Bus	Educ	Eng	Med	Total	Total
Intellectual Needs	Achievement	5.50	5.36	5.93	5.47	5.56	6.79	4.93	**7.16**	5.97	6.21	5.88
	Conjunctivity-Disjunctivity	6.19	5.40	6.10	*4.53*	5.56	**7.06**	5.57	5.81	5.75	6.05	5.80
	Counteraction-Infavoidance	6.30	5.95	6.73	5.76	6.18	**7.67**	5.49	5.94	6.50	6.40	6.29
	Ego Achievement	4.81	4.90	*3.37*	5.47	4.64	4.67	3.81	4.76	4.81	4.51	4.57
	Energy-Passivity	6.65	6.25	6.66	7.03	6.65	7.38	*5.57*	6.63	6.76	6.58	6.62
	Humanism	*3.94*	5.89	*3.81*	6.17	4.95	4.32	5.34	**6.38**	6.20	5.56	5.25
	Objectivity	6.72	*1.92*	**7.32**	**7.64**	5.90	6.44	*2.18*	**7.56**	**7.64**	5.96	5.93
	Reflectiveness	5.97	6.62	5.26	6.59	6.11	4.85	5.58	6.31	6.21	5.74	5.92
	Scientism	*4.22*	*4.54*	**7.32**	6.23	5.58	5.53	*3.31*	**8.88**	**7.02**	6.18	5.88
	Understanding	5.27	6.04	5.66	6.20	5.79	*5.14*	*4.99*	**9.32**	6.45	6.48	6.13
Dependency Needs	Abasement	3.99	3.87	3.29	2.88	3.51	3.79	3.60	2.66	3.25	3.32	3.42
	Adaptiveness	3.74	**5.95**	4.34	3.91	4.48	4.82	**6.20**	*3.42*	4.08	4.63	4.56
	Affilitation-Rej	**8.20**	7.53	6.71	7.47	7.48	7.23	*5.50*	6.00	6.61	6.33	6.91
	Blamavoidance-Agg	6.70	6.92	6.83	6.50	6.74	7.94	7.95	6.31	7.12	7.33	7.04
	Conjunctivity-Disjunctivity	6.19	5.40	6.10	*4.53*	5.56	**7.06**	5.57	5.81	5.75	6.05	5.80
	Deference	6.54	6.87	6.61	5.73	6.44	7.44	6.82	6.43	6.80	6.87	6.66
	Nurturance-Rej.	6.73	7.87	6.47	7.85	7.23	7.94	*5.94*	6.58	7.85	7.08	7.16
	Order	5.77	5.38	4.71	*3.32*	4.80	**6.05**	5.61	4.26	*3.52*	4.86	4.83
	Succorance-Autonomy	6.18	5.99	5.90	6.00	6.02	7.26	6.44	6.56	6.62	6.72	6.37

*Boldface (**~~~**) and italicized (_____) entries indicate means differing within groups on each row enough to be estimated as statistically significant in the region of the .01 level or beyond.

Table 1 (cont.)

Activities Index Scale Means* for Eight Groups of Subjects
at Two Levels of Experience in Four Professional Fields

Dimension	Need Scales	Students					Professionals					Combined Total
		Bus	Educ	Eng	Med	Total	Bus	Educ	Eng	Med	Total	
Impulse Expression	Aggression-Blamavoidance	3.30	3.08	3.17	3.50	3.26	2.06	2.05	3.69	2.88	2.67	2.97
	Change Sameness	6.97	*2.97*	6.68	**7.32**	5.98	6.50	6.02	6.14	6.32	6.24	6.11
	Dominance	*5.34*	3.94	4.20	4.38	4.46	4.44	*3.14*	4.46	3.86	3.98	4.22
	Ego Achievement	4.81	4.90	*3.37*	5.47	4.64	4.67	*3.81*	4.76	4.81	4.51	4.57
	Emotionality-Placidity	3.41	**4.13**	2.51	3.47	3.38	2.79	3.23	2.49	3.04	2.89	3.13
	Energy-Passivity	6.65	6.25	6.66	7.03	6.65	7.38	*5.57*	6.63	6.76	6.58	6.62
	Exhibitionism	4.52	3.64	3.81	**5.23**	4.30	3.88	*2.52*	4.38	4.14	3.73	4.01
	Infav. Fantasied Achievement	6.76	5.72	5.93	5.94	6.09	6.44	*4.78*	6.26	6.07	5.89	5.99
	Impulsion-Delib.	3.68	4.33	3.37	4.29	3.92	3.50	3.68	3.27	3.93	3.60	3.76
	Narcissism	5.98	5.28	4.71	5.32	5.32	4.85	4.52	5.24	4.72	4.83	5.07
	Play	5.45	5.26	4.56	5.50	5.19	3.91	4.47	4.48	3.86	4.18	4.68
	Pragmatism	6.81	7.30	7.66	6.76	7.13	8.03	6.17	7.43	6.82	7.11	7.12
	Risk-Harmavoidance	4.84	4.54	5.19	4.94	4.88	3.59	3.68	4.49	4.40	4.04	4.46
	Sentience	4.01	4.33	3.59	**4.88**	4.20	*2.32*	2.79	4.01	3.42	3.14	3.67
	Sex-Prudishness	4.70	3.77	4.17	**5.32**	4.49	*2.85*	*2.56*	4.58	4.38	3.59	4.04

*Boldface (~~~~) and italicized (____) indicate means differing within groups on each row enough to be estimated as statistically significant in the region of the .01 level or beyond.

Table 2

Summary of Activities Index Scales Contributing to Differentiation Between Eight Groups of Subjects at Two Levels of Experience in Four Professional Fields

	Students				Professionals			
Dimension	Business	Education	Engineering	Medicine	Business	Education	Engineering	Medicine
Intellectual Needs				Conjunctivity-	Conjunctivity+ Counteraction+		Achievement +	
			Ego Achievement -					
						Energy-		
	Humanism -		Humanism -				Humanism+	
		Objectivity-	Objectivity +	Objectivity +		Objectivity-	Objectivity+	Objectivity+
	Scientism -	Scientism -	Scientism +			Scientism-	Scientism+	Scientism+
					Understanding-	Understanding-	Understanding+	
Dependency Needs		Adaptiveness+				Adaptiveness+	Adaptiveness-	
	Affiliation+					Affiliation-		
				Conjunctivity-	Conjunctivity+			
						Nurturance-		
				Order-	Order+			Order-
Impulse Expression		Change-		Change+				
	Dominance+					Dominance-		
			Ego Achievement-					
		Emotionality+						
						Energy-		
				Exhibitionism+		Exhibitionism-		
						Fantasied Achievement-		
				Sentience+	Sentience-			
				Sex+	Sex-	Sex-		

Table 3

Activities Index Scale Means for Two Combined Medical School Classes
As Freshmen and as Seniors (N=118)

Dimension	Need Scales	Freshmen $\bar{x}$	Freshmen σ	Seniors $\bar{x}$	Seniors σ	t	p	D*
Intellectual Needs	Achievement	6.51	2.21	5.76	2.40	2.50	$<.05$	-
	Conjunctivity-Disjunctivity	6.05	1.63	6.22	2.17	0.68	n.s.	
	Counteraction-Infavoidance	6.67	2.01	6.18	2.43	1.68	n.s.	
	Ego Achievement	6.08	2.18	6.02	2.90	0.18	n.s.	
	Energy-Passivity	7.30	1.51	7.09	1.66	1.00	n.s.	
	Humanism	6.26	2.51	7.04	2.63	2.60	$<.05$	*
	Objectivity	7.56	2.07	9.23	1.40	7.73	$<.001$	+
	Reflectiveness	6.78	1.96	6.94	2.20	0.59	n.s.	
	Scientism	7.72	1.98	6.63	2.75	3.52	.001	-
	Understanding	6.59	2.20	7.64	2.12	3.72	.001	+
Dependency Needs	Abasement	3.25	1.48	3.40	1.85	0.68	n.s.	
	Adaptiveness	5.42	2.37	5.31	2.33	0.37	n.s.	
	Affiliation-Rejection	7.58	1.95	7.01	2.39	2.01	$<.05$	-
	Blameavoidance-Agression	6.92	2.03	4.87	2.52	6.85	$<.001$	-
	Conjunctivity-Disjunctivity	6.05	1.63	6.22	2.17	0.68	n.s.	
	Deference	6.78	1.58	5.65	2.06	4.71	$<.001$	-
	Nurturance-Rejection	8.25	1.25	6.85	2.14	6.09	$<.001$	-
	Order	4.69	2.31	3.97	3.10	2.02	$<.05$	-
	Succorance-Autonomy	6.19	1.75	6.08	2.21	0.42	n.s.	

*Significant increases in the Senior year are indicated by a plus (+) sign, loses by a minus (-).

Table 3 (cont.)

Activities Index Scale Means for Two Combined Medical School Classes
As Freshmen and as Seniors (N=118)

Dimension	Need Scales	Freshmen		Seniors		t	p	D*
		$\overline{X}$	σ	$\overline{X}$	σ			
Impulse Expression	Aggression-Blameavoidance	3.08	2.03	5.13	2.52	6.85	$<.001$	+
	Change-Sameness	7.05	1.69	4.75	2.19	7.14	$<.001$	-
	Dominance	4.86	2.00	6.90	2.34	7.18	$<.001$	+
	Ego Achievement	6.08	2.18	6.02	2.90	0.18	n.s.	
	Emotionality-Placidity	3.43	1.72	3.64	1.99	0.88	n.s.	
	Energy-Passivity	7.30	1.51	7.09	1.66	1.00	n.s.	
	Exhibitionism-Infavoidance	4.75	2.54	4.50	2.56	0.76	n.s.	
	Fantasied Achievement	5.99	1.85	3.64	2.52	8.16	$<.001$	-
	Impulsion-Deliberation	3.81	2.04	5.30	1.89	5.89	$<.001$	+
	Narcissism	5.60	1.88	4.01	2.37	5.70	$<.001$	-
	Play	4.44	1.82	5.38	2.41	3.38	$<.001$	+
	Pragmatism	6.65	1.83	6.15	2.42	1.88	n.s.	
	Risk-Harmavoidance	5.03	2.19	5.55	2.32	1.77	n.s.	
	Sentience	4.23	1.80	4.82	1.90	2.44	$<.05$	+
	Sex-Prudishness	4.87	2.17	4.08	2.46	2.63	$<.01$	-

*Significant increases in the Senior year are indicated by a plus (+) sign, loses by a minus (-).

of intellectual interests, a consistent decline in various manifestations of dependency and selective shifts in impulse controls. A growing self-assurance appears to be reflected in such things as an increased readiness to express aggression and dominance, as well as in an acceptance of impulses towards play and sentience. The trend suggested by these data is all the more interesting for its contrast with the more egocentric impulsiveness of the 34 seniors from the class preceding these two who contributed the data seen previously in Tables 1 and 2.

Differences in College Environments

It seems likely that the changes being observed here are to some degree the result of purposive activities on the part of the faculty and administration of this school, although we have not as yet made any attempt to measure medical school environments in these terms. The extent of differences to be found between school environments, however, is suggested by Figure 2, which contrasts press scale scores obtained from students in three business administration programs with scores from students in seven elite liberal arts colleges. These profiles are based on stanine scores standardized on a sample of 32 selected colleges and technical programs; any departure from a perfect circle, therefore, indicates a deviation from the norm. It is reasonably clear that the business administration and liberal arts environments differ from other types of college programs as well as from one another.

The business administration programs appear here as markedly higher in maintaining student dependency needs, particularly with respect to press for abasement, deference, and order. Examples of items in these areas in which the business administration programs exceeded liberal arts by over forty percentage points may be found in Table 4. The liberal arts colleges, on the other hand, encourage student intellectual development at a manifestly higher level, as can be seen by the remaining items in Table 4.

Although the elite liberal arts colleges are very much alike in the stress placed on intellectual activities, this characteristic is not unique to them. What is unique among these schools is the extent to which personal independence and informality is encouraged, in two cases to the point of seemingly institutionalized rebellion. The emphasis upon these qualities is peculiar to those schools and shared with no other type of institution among the 66 thus far studied. Among themselves the liberal arts colleges in the present sample appear to be further differentiated by the specific area of intellectual activity emphasized. Three have been noted thus far: art (with variants involving appreciation or creation), science, and public service. The characteristics noted for these schools are probably typical of the colleges identified by Knapp, Goodrich, and Greenbaum (1952, 1953) for their high contribution of future scholars and scientists, as has already been confirmed for a number of them restudied from the present frame of reference by Thistlethwaite (1959a, 1959b).

Figure 2

Stanine score press profiles obtained from 460 students at seven liberal arts colleges and 156 students in three business administration programs.

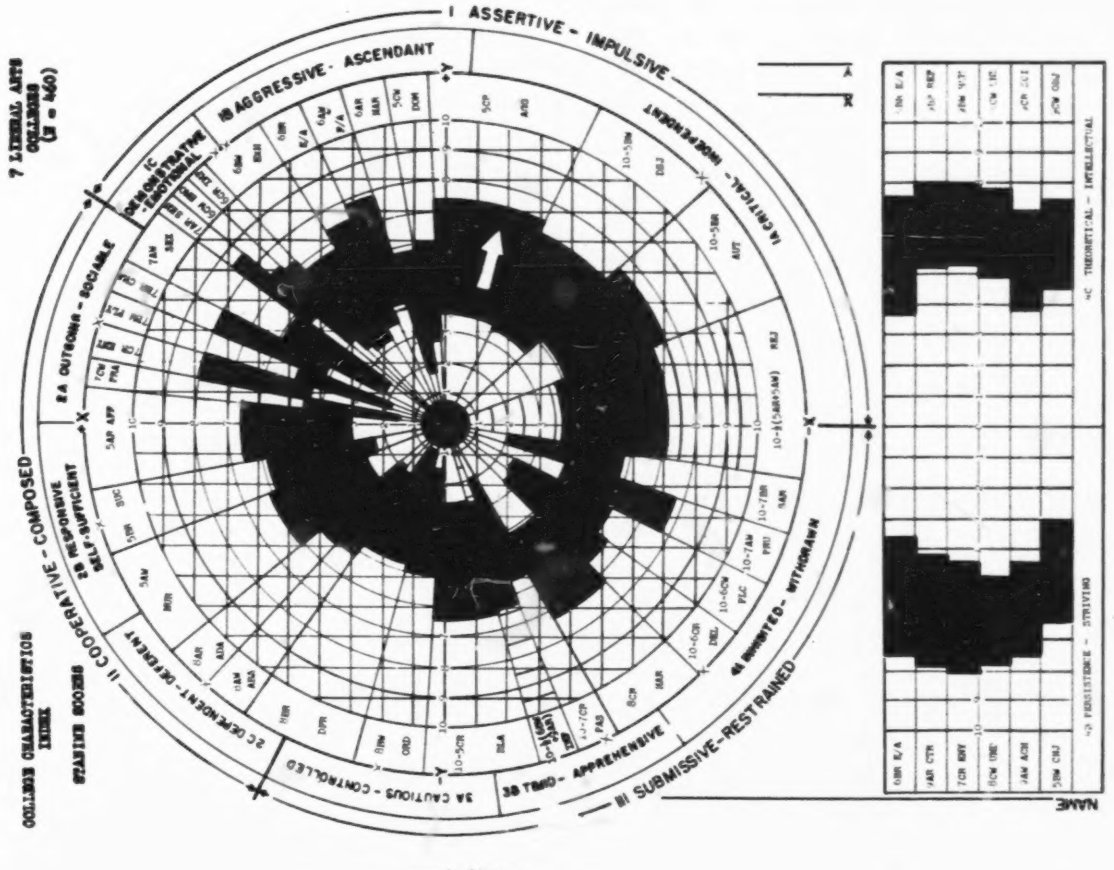


Table 4

College Characteristics Index Items Differentiating Between Liberal Arts and Business Administration Programs By Forty Percentage Points or More.

No.	Item	Scale	Per Cent Response	
			Lib.Arts	Bus.Admin.
1.	Students are discouraged from criticizing administrative policies and teaching practices	Abasement	20.2	92.0
2.	The school administration has little tolerance for student complaints and protests	Abasement	14.1	56.0
9.	Students address faculty members as "professor" or "doctor"	Deference	13.5	63.3
69.	Religious worship here stresses service to God and obedience to His laws	Deference	18.5	64.4
22.	In many classes students have an assigned seat	Order	12.9	99.3
142.	Professors usually take attendance in class	Order	32.2	83.0
292.	Classes meet only at their regularly scheduled time and place	Order	34.7	90.3
47.	The school offers many opportunities for students to understand and criticize important works in art, music, and drama	Humanism	85.1	40.8
77.	A lecture by an outstanding literary critic would be well attended	Humanism	90.4	34.3
107.	Many students are planning post-graduate work in the social sciences	Humanism	76.2	18.8
167.	When students get together, they often talk about trends in art, music, or the theatre	Humanism	75.3	17.9
197.	Humanities courses are often elected by students majoring in other areas	Humanism	89.9	49.1
261.	The school has an excellent reputation for academic freedom	Objectivity	90.6	48.6

Table 4 (cont.)

College Characteristics Index Items Differentiating Between Liberal Arts and Business Administration Programs by Forty Percentage Points or More.

No.	Item	Scale	Per Cent Response	
			Lib.Arts	Bus.Admin.
25.	Books dealing with psychological problems or personal values are widely read and discussed	Reflectiveness	55.2	13.8
55.	There would be a capacity audience for a lecture by an outstanding philosopher or theologian	Reflectiveness	76.2	18.1
115.	Modern art and music get considerable attention here	Reflectiveness	89.6	41.3
235.	Long, serious intellectual discussions are common among the students	Reflectiveness	84.6	21.6
295.	There is considerable interest in the analysis of value systems and the relativity of societies and ethics	Reflectiveness	86.9	38.3
30.	There is a lot of emphasis on preparing for graduate work	Understanding	62.4	10.4
90.	Most students have considerable interest in round tables, panel meetings, or other formal discussions	Understanding	74.7	34.2
180.	Many students here prefer to talk about poetry, philosophy, or mathematics, as compared with motion pictures, politics, or inventions	Understanding	78.6	26.5

STERN

The encouragement of student autonomy to be found in the liberal arts college is in direct opposition to the majority of schools studied thus far, almost 60 per cent of which have scores which reflect a strong emphasis on constraint and conformity, as in the case of the business administration programs referred to previously. A few of the remaining institutions have been identified as reflections of the Fitzgerald tradition in the American college scene--the fountains of knowledge where students gather to drink--and there is no doubt that other patterns in addition to those described in analyses by Stern (1960, in press) and by Pace (1960) will be identified as the range of institutions is extended, and our skill in interpreting these new forms of data increases.

The characteristics of the student bodies in any of the schools examined thus far reflect needs patterns which are readily recognizable as personalized versions of the prevailing press. This is not attributable to the fact that the same students are in general the sources of both sets of data, for there is no relationship between the needs preferences a student records for himself and the press characteristics he attributes to the college, either for samples of students at the same institution (McFee, 1959) or across institutions (Dorn, in preparation). The diagonal entries in Table 5, however, representing the correlations between average need and average press scores at 43 institutions, indicate that there is a significant tendency for students with particular needs to be found at institutions with appropriate press. Although there is considerable variation in the degree of this relationship, ranging from -26 to +79, the average correlation between student body need and corresponding institutional press is in the +30's.

There are many relationships in this table of considerable interest, showing as it does the kinds of academic environments in which each particular student characteristic is maximized (reading across the rows) and the kinds of students to be found in any given environment (reading down the columns). To illustrate, let us consider needs for achievement and sex, Scylla and Charybdis for the Student Personnel Dean. The diagonal entries in both cases are approximately zero, indicating that students with strongly expressed interests in achievement or in sex are not especially likely to be found in colleges at which either of these activities are stressed. Reading across the rows also reveals generally zero-order relationships, which may be interpreted to mean that such students are equally likely to be found in any college environment. So far there is no occasion for surprise. However, reading down the columns, we find that institutions which stress academic achievement are most likely to house students with needs for philosophical reflectiveness and scientific pursuits, least likely to contain students interested in affiliation, dominance and play. Schools at which heterosexual activities are pronounced, however, are most likely to attract and hold students who are play-oriented, aggressive, domineering, and have fantasies of unrealistic achievement. Or perhaps these are the only students who can survive in such an atmosphere.

Table 5

Matrix of Intercorrelations Between Activities Index and College Characteristics Index Means at 43 Colleges

AI Means*	CCI Means														
	Aba	Ach	Ada	Aff	Agg	Cha	Cnj	Ctr	Dfr	Dom	E/A	Emo	Eny	Exh	F/A
Aba	-15	+22	+24	+48	-59	-34	+66	-08	+11	+07	+17	+32	+25	+11	-02
Ach	+07	+11	+25	-16	+24	+23	-18	+11	+02	+02	-02	-12	+03	+08	-09
Ada	-25	+20	+13	+21	-13	+12	+31	+26	-20	-09	+39	+18	+28	+30	+24
Aff	+49	-42	+60	+43	-40	-58	+28	-61	+71	+52	-26	-10	-48	-02	-54
Agg	+26	-21	-17	-60	+79	+52	-70	+28	-20	-06	-11	-48	-29	-17	+14
Cha	+08	-21	-39	-37	+63	+39	-62	+32	-38	-14	+04	+01	-04	-06	+17
Cnj	-19	+13	+52	+47	-59	-49	+65	-34	+37	+25	-09	+75	+12	+002	-28
Ctr	+18	-14	-13	-48	+39	+32	-41	+14	-04	-17	-06	-35	-11	-004	+12
Dfr	-13	+14	+36	+53	+78	-40	+68	-31	+39	+19	+14	+26	+14	+23	-11
Dom	+45	-38	-01	-52	+54	+32	-61	-07	+17	+14	-18	-55	-51	-05	-13
E/A	+06	+01	-002	-01	+02	-08	+10	+03	-03	+14	-02	-09	-07	+02	-04
Emo	-30	+05	-44	+10	+07	+01	-04	+28	-49	-12	+18	+52	+33	-01	+23
Eny	-14	-05	-14	-21	+16	+31	-21	-06	-02	-24	+11	-08	-02	+15	-02
Exh	+22	-20	-18	-36	+50	+08	-40	+12	-12	-01	-27	-11	-15	-26	-12
F/A	+46	-25	+20	-53	+55	+28	-43	+07	+22	+15	-24	-60	-45	-16	-12
Har	+02	-01	+33	+52	-57	-48	+45	-27	+24	+38	+10	+35	+03	+08	-21
Hum	-29	+25	-19	+21	-10	-07	+18	+19	-40	-03	+21	+46	+33	+10	+10
Imp	-17	+01	-59	-30	+47	+37	-46	+45	-62	-33	+15	+25	+22	-08	+25
Nar	+07	+04	+19	+29	-25	-26	+37	-04	+16	+32	+09	+37	+11	+17	-07
Nur	-16	+04	-13	+62	-54	-50	+53	-24	+14	+26	+16	+52	+12	+17	-22
Obj	-06	+03	-03	+05	-19	+09	+01	-26	+12	-12	+08	-14	-05	+13	-01
Ord	+36	-01	+48	+47	-58	-47	+62	-37	+40	+26	+002	+13	-06	-003	-33
Ply	+47	-48	+09	-10	+16	-04	-30	-32	+35	+22	-18	-31	-51	-08	-26
Pra	+32	-17	+61	+20	-18	-12	+16	-29	+46	+31	-01	-25	-32	+16	-29
Ref	-29	+30	-08	+05	-06	+22	+07	+20	-24	-01	+38	+23	+29	+23	+30
Sci	-10	+34	+05	-39	+28	+46	-21	+42	-19	-22	+10	-31	+16	-002	+30
Sen	-22	+16	-31	-03	+11	+22	-14	+36	-36	-06	+32	+35	+29	+19	+34
Sex	-29	-08	+02	+18	-23	-12	+16	-01	+01	+23	+14	+31	+07	+02	+08
Suc	-005	-10	+36	+54	-59	-45	+57	-43	+38	+32	+02	+23	-07	+13	-10
Und	-23	+28	-16	-33	+41	+53	-28	+43	-39	-17	+21	-01	+25	+17	+34

*See Table 1 for terms of which these are abbreviations.

Table 5 (cont.)

Matrix of Intercorrelations Between Activities Index and College Characteristics Index Means at 43 Colleges

AI Means*	CCI Means Har	Hum	Imp	Nar	Nur	Obj	Ord	Ply	Pra	Ref	Sci	Sen	Sex	Suc	Und
Aba	+65	+22	-39	+37	+62	-36	+39	-05	-02	+25	-11	-06	-48	+36	+41
Ach	-37	-14	+19	-10	-22	-18	-14	+22	+18	-11	+07	-18	+09	-09	+04
Ada	+21	+13	+03	-002	+19	+25	-009	+03	-08	+42	+16	+30	-08	+02	+31
Aff	+10	-47	-38	+55	+52	-38	+71	+47	+53	-46	-30	-55	+15	+56	-48
Agg	-75	-09	+48	-47	-71	-48	-35	+05	-002	-14	+41	+05	+50	-67	-35
Cha	-35	+17	+37	-48	-51	-14	-41	-17	-34	+08	+16	+31	+32	-38	-20
Cnj	+56	-22	-42	+51	+60	+10	+53	+21	+36	-15	-25	-38	-35	+47	+18
Ctr	-40	-005	+25	-38	-48	-31	+004	+06	+13	-06	+35	+15	+36	-35	-22
Dfr	+63	+08	-47	+60	+71	+33	+51	+14	+22	+14	-20	-11	-43	+56	+31
Dom	-61	-20	+32	-21	-51	-62	-06	+26	+22	-31	+25	-15	+53	-42	-52
E/A	+24	+22	-04	+12	+12	-002	+12	+05	-15	+02	-02	+10	+02	-12	+10
Emo	+30	+40	+02	-16	+06	+38	-28	-42	-61	+26	-11	+45	-11	-03	+21
Eny	-16	+16	+09	-14	-31	-04	-13	+07	+01	+10	+14	+12	+14	-004	-06
Exh	-22	-08	+11	-29	-38	-31	-08	-04	-22	-24	-06	+02	+17	-31	-25
F/A	-64	-35	+24	-24	-54	-65	+05	+26	+41	-39	+28	-33	+43	-48	-48
Har	+64	+02	-35	+52	+69	+27	+27	+14	+04	+03	-46	-14	-29	+43	+19
Hum	+59	+56	-13	+07	+24	+41	-21	-28	-65	+41	-11	+46	-30	+04	+42
Imp	-11	+36	+28	-61	-45	+15	-55	-46	-60	+24	+13	+52	+04	-42	+04
Nar	+42	+18	-20	+32	+49	+18	+31	-01	-08	+10	-12	+03	-10	+32	+19
Nur	+74	+21	-36	+52	+77	+38	+34	+08	-19	+17	-49	+04	-35	+59	+30
Obj	-06	+14	-07	+14	+09	+02	+04	+08	-03	+13	+20	+11	+04	+14	+04
Ord	+50	-18	-42	+49	+61	+12	+54	+18	+39	-15	-32	-39	-34	+53	+14
Ply	-32	-24	+01	+04	-13	-45	+16	+23	+22	-32	+06	-22	+39	-02	-59
Pra	-22	-38	-03	+27	+20	-34	+46	+48	+71	-28	+12	-40	+22	+23	-24
Ref	+27	+59	+14	+17	+19	+34	-22	-06	-44	+55	+19	+45	-14	-08	+52
Sci	-41	+04	+18	-37	-48	-14	-26	-10	+11	+10	+61	+12	+09	-51	+11
Sen	+09	+53	+17	-09	+001	+31	-28	-27	-57	+40	+16	+49	+04	-14	+33
Sex	+26	+14	-21	+19	+31	+09	+18	-11	-28	+07	-24	+12	+02	+13	+03
Suc	+45	+01	-41	+63	+69	+13	+60	+21	+20	+01	-20	-12	-15	+55	+07
Und	-26	+35	+35	-30	-43	+01	-46	-08	-22	+33	+44	+36	+10	-46	+23

*See Table 1 for terms of which these are abbreviations.

The emphasis thus far has been on cultural homogeneity, but it is important to note that this, too, is one of the peculiar attributes of the small liberal arts college. No other type of school offers so sharp an image to its students, or preserves so great a built-in strain between the level of excellence implied in that image and the corresponding characteristics of their student bodies. Some indication of the extent of subcultural differences within a large, complex university setting is given in Table 6 which reveals the contrasting images which such a school offers to men as compared with women students. It would appear that women generally find this school to be a more stimulating environment than do the men.

Tables 7 and 8 summarize differences in the image various majors have of this same school. Reference to Table 7 suggests that for three of these 16 groups of seniors, there are fairly detailed and different impressions of this institution. Business administration majors apparently consider the school to be weak, whereas education and forestry majors both find the school _intellectually_ challenging, although for different reasons. With respect to _impulse expression_, however, the education students find this to be a most provocative place, in marked contrast to the restraints experienced by the foresters.

These differences are at least partially attributable to a divergence in the expectations, attributes, and prior experiences of these students. As Tables 9 and 10 indicate, each of these several groups of majors have their own distinctive patterns of needs. The exclusively male foresters are purposeful students strongly oriented towards the sciences who reject playfulness and related aspects of adolescent social life. The education majors, on the other hand, express strong interests in the humanities as well as in boy-girl relationships, perhaps because the sample is heavily weighted with women. At any rate, the home economics women are similarly oriented, whereas the business administration men are interested in play rather than in heterosexual activities _per se_.

It would appear then that the differences in institutional atmosphere reported by these various groups of seniors is related in part to their expressed needs. Forestry students and education majors each describe an institution which fulfills their needs, as different as these two groups are, whereas the students in business administration may be expected to find a lesser measure of satisfaction with their experience here. At the present stage of these investigations it remains a moot point as to whether there are in fact three different institutions corresponding to the descriptions of each of these subcultural minorities in the same complex university setting, or whether their descriptions more nearly reflect personalized variations of the same underlying theme. To what extent do institutional press mold students in accord with faculty objectives; to what extent do student needs determine the prevailing atmosphere? Whatever the answer, it is clear that for _these_ students this _is_ the way the institution makes itself felt.

Table 6

College Characteristics Index Stanine Means
for Senior Men (N=573) and Women (N=463)
at the Same Institution

Dimension	Need Scales	Men		Women		$t^{1,2}$	Total	
		$\bar{X}$	σ	$\bar{X}$	σ		$\bar{X}$	σ
Intellectual Needs	Achievement	3.35	2.64	3.41	2.45	.38	3.38	2.55
	Conjunctivity-Disjunctivity	4.21	2.45	4.10	2.32	.73	4.16	2.40
	Counteraction-Infavoidance	4.12	1.85	3.79	1.78	+2.75**	3.96	1.84
	Ego Achievement	5.82	2.05	6.23	1.85	-3.42**	6.00	1.99
	Energy-Passivity	4.10	2.00	4.01	2.18	.64	4.07	2.17
	Humanism	4.84	2.13	5.19	2.02	-2.69**	4.99	2.11
	Objectivity	3.95	2.32	3.93	2.13	.14	3.94	2.24
	Reflectiveness	5.17	2.19	5.43	2.18	1.86	5.29	2.18
	Scientism	4.63	2.41	4.12	2.25	+3.40**	4.40	2.37
	Understanding	4.22	2.25	4.01	2.22	1.50	4.12	2.26
Dependency Needs	Abasement	7.03	2.12	7.37	1.93	-2.62**	7.17	2.06
	Adaptiveness	6.05	1.67	5.76	1.74	+2.64**	5.92	1.71
	Affiliation-Rejection	4.59	1.92	4.63	1.83	.33	4.60	1.89
	Blameavoidance-Aggression	3.75	2.12	3.77	2.14	.14	3.77	2.14
	Conjunctivity-Disjunctivity	4.21	2.45	4.10	2.32	.73	4.16	2.40
	Deference	5.50	1.60	5.50	1.54	--	5.50	1.57
	Nurturance-Rejection	5.25	2.10	5.91	1.82	-5.08**	5.55	2.02
	Order	4.15	1.64	4.31	1.56	1.57	4.21	1.63
	Succorance-Autonomy	4.58	1.66	4.71	1.52	1.30	4.64	1.59

[1] Significant larger values for senior men are indicated by a plus (+) sign, lower by a minus (-).

[2] $p < .05$ (*), $< .01$ (**).

Table 6 (Cont.)

College Characteristics Index Stanine Means
for Senior Men (N=573) and Women (N=463)
at the Same Institution

Dimension	Need Scales	Men		Women			Total	
		$\overline{X}$	σ	$\overline{X}$	σ	$t^{1,2}$	$\overline{X}$	σ
Impulse Expression	Aggression-Blameavoidance	6.25	2.12	6.23	2.14	.14	6.23	2.14
	Change-Sameness	5.46	1.56	5.56	1.51	1.00	5.50	1.53
	Dominance	6.19	1.88	6.67	1.85	-4.00**	6.41	1.87
	Ego Achievement	5.82	2.05	6.23	1.86	-3.42**	6.00	1.99
	Emotionality-Placidity	4.33	1.88	4.91	1.84	-4.83**	4.59	1.88
	Energy-Passivity	4.10	2.19	4.01	2.18	.64	4.07	2.17
	Exhibitionism-Infavoidance	5.34	2.11	5.52	1.99	1.38	5.42	2.06
	Fantasied Achievement	4.99	1.56	4.69	1.44	+3.00**	4.86	1.50
	Impulsion-Deliberation	6.05	1.72	6.43	1.56	-3.80**	6.21	1.68
	Narcissism	5.26	1.96	5.90	1.95	-5.33**	5.55	1.99
	Play	6.86	1.75	7.16	1.46	-3.00**	7.00	1.61
	Pragmatism	6.06	1.57	6.07	1.61	.10	6.07	1.56
	Risk-Harmavoidance	6.49	1.42	6.34	1.39	1.67	6.42	1.41
	Sentience	4.87	1.82	5.46	1.98	-4.92**	5.14	1.93
	Sex-Prudishness	7.51	1.75	7.19	1.39	+3.20**	7.05	1.60

[1] Significant larger values for senior men are indicated by a plus (+) sign, lower by a minus (-).

[2] $p < .05$ (*), $< .01$ (**).

Table 7
College Characteristics Index
Stanine Means- Total Senior Class of University-affiliated College (N=1036)

	Aba	Ach	Ada	Aff	Agg	Cha	Cnj	Ctr	Dfr	Dom
L.A. Classics & Humanities	7.35	3.19	5.59	4.28	6.28	5.42	4.30	3.90	5.76	6.29
L.A. Social Sciences	7.78	-2.39	-5.19	4.32	6.54	5.59	4.24	3.39	5.68	6.07
L.A. Natural Sciences	7.18	3.71	5.59	4.82	6.37	5.37	4.38	3.59	5.40	6.14
L.A. Hist. Econ. & Gov't.	7.27	3.32	5.90	4.45	6.15	5.16	4.29	3.63	5.75	6.36
L.A. Biol. Sciences	7.84	3.07	6.16	3.81	6.48	5.34	4.34	3.81	5.90	6.49
L.A. Miscellaneous	7.50	3.10	5.73	4.29	6.52	5.27	3.69	3.66	5.64	6.41
Bus. Administration	7.43	-2.67	5.96	4.08	6.50	5.26	3.88	3.58	+5.93	6.36
Fine Arts	7.27	3.53	6.34	4.99	6.02	5.73	4.08	4.28	5.10	6.39
Education	7.27	3.74	5.99	4.92	6.13	+5.83	4.41	4.27	5.33	6.80
Speech & Dramatic Arts	8.25	-2.45	6.03	4.30	6.65	5.43	3.82	3.35	5.74	7.43
Home Economics	7.52	3.85	5.85	4.80	6.07	5.21	4.08	4.02	5.61	7.05
Architecture	7.42	3.23	+6.94	4.23	6.86	5.16	3.55	4.15	4.88	7.01
Engineering	6.84	3.42	5.93	4.43	5.86	5.65	3.32	4.11	5.84	-5.79
Forestry	-5.69	3.97	6.10	+5.53	5.77	5.65	4.12	+4.81	-4.90	-5.51
Journalism	-5.57	3.95	5.68	4.53	+7.22	5.46	3.66	3.66	5.31	7.00
Nursing	6.54	4.56	6.34	4.64	5.51	5.72	5.04	4.38	4.87	6.54
TOTAL	7.17	3.38	5.92	4.60	6.23	5.50	4.16	3.96	5.50	6.41
	E/A	Emo	Eny	Exh	F/A	Har	Hum	Imp	Nar	Nur
L.A. Classics & Humanities	6.06	4.64	3.97	5.73	4.84	3.51	4.98	6.18	5.87	5.43
L.A. Social Sciences	5.92	4.38	3.58	5.41	4.75	3.44	5.11	6.60	5.50	5.42
L.A. Natural Sciences	5.83	4.41	3.93	5.30	4.61	3.49	4.78	5.92	4.96	5.35
L.A. Hist. Econ. & Gov't.	5.95	4.31	4.18	5.41	4.90	3.45	5.20	6.24	5.58	5.32
L.A. Biol. Sciences	6.09	4.38	3.55	5.61	4.56	3.51	4.67	5.62	5.07	5.28
L.A. Miscellaneous	5.81	4.44	3.57	5.39	4.91	3.56	4.88	5.80	5.57	5.38
Bus. Administration	5.76	4.07	-3.41	4.99	4.48	3.31	-4.41	6.25	5.24	4.99
Fine Arts	6.10	4.75	4.48	5.53	5.17	3.72	5.07	6.16	5.80	5.80
Education	+6.63	+5.18	4.38	+5.91	4.95	3.72	5.51	+6.64	+6.09	+6.26
Speech & Dramatic Arts	6.15	4.66	3.64	5.21	5.28	3.27	4.66	6.49	6.05	4.95
Home Economics	6.64	5.08	4.51	5.63	4.88	3.59	5.85	6.84	5.95	6.16
Architecture	5.23	4.50	4.35	5.20	5.07	3.76	5.24	6.30	4.83	5.16
Engineering	5.53	4.23	4.14	5.02	4.82	3.61	4.93	-5.49	5.12	5.19
Forestry	5.33	4.22	4.36	-4.63	4.92	3.65	-4.10	-5.60	-4.77	5.16
Journalism	5.69	4.57	3.43	5.45	4.46	3.58	4.17	6.45	4.91	5.43
Nursing	6.05	5.29	5.18	5.45	5.32	4.25	5.49	6.64	6.34	6.47
TOTAL	6.00	4.59	4.07	5.42	4.86	3.58	4.99	6.21	5.55	5.55

+ and - signs indicate means differing between groups of majors enough to be estimated as statistically significant in the region of the .01 level or beyond.

Table 7 (cont.)
College Characteristics Index
Stanine Means- Total Senior Class of University-affiliated College (N=1036)

	Obj	Ord	Ply	Pra	Ref	Sci	Sen	Sex	Suc	Und
L.A. Classics & Humanities	3.72	3.89	6.94	5.65	5.19	4.07	5.20	7.13	4.48	4.15
L.A. Social Sciences	3.83	4.51	7.27	-5.54	5.26	4.07	4.99	+7.60	4.85	3.86
L.A. Natural Sciences	3.94	3.77	7.09	6.00	4.85	4.34	5.02	7.10	4.94	4.07
L.A. Hist. Econ. & Gov't.	3.74	4.04	7.10	6.05	4.98	4.19	-4.66	7.15	4.50	4.24
L.A. Biol. Sciences	3.93	4.73	6.98	6.21	5.65	4.33	4.79	7.06	3.99	3.78
L.A. Miscellaneous	3.31	4.08	6.86	6.26	5.15	4.11	-4.67	7.05	4.15	3.81
Bus. Administration	3.53	4.09	7.17	6.25	4.85	3.76	-4.53	7.32	4.58	-3.39
Fine Arts	4.14	4.36	7.13	6.13	5.52	4.17	5.62	7.00	4.77	4.29
Education	+4.26	4.54	7.34	+6.31	+5.89	4.75	+5.66	7.36	4.67	4.44
Speech & Dramatic Arts	2.88	4.24	7.60	6.53	4.64	3.66	4.77	7.59	4.57	3.64
Home Economics	3.97	4.84	6.68	6.38	5.85	4.81	+5.87	7.05	4.91	4.56
Architecture	3.40	3.95	6.74	6.34	5.00	4.42	5.29	6.91	4.56	3.57
Engineering	4.28	-3.66	-6.35	5.84	5.23	4.78	4.98	-6.62	4.86	4.27
Forestry	+4.60	4.22	-6.08	5.60	4.77	+5.62	4.93	-5.74	4.84	4.47
Journalism	3.93	3.47	7.25	6.37	4.97	2.89	5.46	7.15	4.75	3.57
Nursing	4.63	4.83	6.79	6.12	6.07	4.84	5.76	6.33	4.47	4.68
TOTAL	3.94	4.21	7.00	6.07	5.29	4.40	5.14	7.05	4.64	4.12

+ and - signs indicate means differing between groups of majors enough to be estimated as statistically significant in the region of the .01 level or beyond.

Table 8

Summary of College Characteristics Index Scales Contributing to Differentiation Between Seniors in Sixteen Different Majors at the Same Institution*

Major	N	Intellectual Needs	Dependency Needs	Impulse Expression
L.A. Classics, Humanities	77			
L.A. Social Sciences	65	Ach-	Ada-	Pra- Sex-
L.A. Natural Sciences	42			
L.A. Hist., Econ., Gov't.	110			Sen-
L.A. Biological Science	32			
L.A. Miscellaneous	66			Sen-
Business Administration	88	Ach- Eny- Hum- Und-	Dfr+	Sen-
Fine Arts	71			

*Plus (+) signs following scale name indicate means significantly high at .01 level or beyond, minus (-) signs indicate significantly low means.

Table 8 (cont.)

Summary of College Characteristics Index Scales Contributing to Differentiation Between Seniors in Sixteen Different Majors at the Same Institution*

Major	N	Intellectual Needs	Dependency Needs	Impulse Expression
Education	211	E/A+ Obj+ Ref+	Nur+	Cha+ E/a+ Emo+ Exh+ Imp+ Nar+ Pra+ Sen+
Speech, Dramatic Arts	25	Ach-		
Home Economics	34			Sen+
Architecture	28		Ada+	
Engineering	64		Ord-	Dom- Imp- Ply- Sex-
Forestry	84	Ctr+ Hum- Obj+ Sci+	Aba- Aff+ Dfr-	Dom- Exh- Imp- Nar- Plv- Sex-
Journalism	24	Sci-	Aba- Bla-	Agg+
Nursing	15			

*Plus (+) signs following scale name indicate means significantly high at .01 level or beyond, minus (-) signs indicate significantly low means.

Table 9

Stern Activities Index

Stanine Means- Total Senior Class of University-affiliated College (N=1036)

	Aba	Ach	Ada	Aff	Agg	Cha	Cnj	Ctr	Dfr	Dom
L.A. Miscellaneous	4.59	5.08	4.88	5.75	5.99	5.89	4.71	5.14	4.55	5.80
L.A. Classics and Humanities	4.88	5.01	4.85	5.04	5.05	5.74	4.45	5.00	5.01	5.19
L.A. Hist. Econ. & Gov't.	4.75	5.55	4.86	5.64	+6.41	5.46	4.61	5.52	4.29	+6.43
L.A. Natural Sciences	4.58	5.70	4.95	-4.29	4.76	-4.38	5.25	6.00	4.66	-4.68
L.A. Biol. Sciences	5.00	5.28	5.00	5.33	5.75	4.85	5.31	5.28	4.63	6.08
L.A. Social Sciences	4.64	4.72	4.84	5.80	5.40	5.39	4.52	4.72	4.51	5.59
Bus. Administration	4.50	5.08	4.54	6.00	5.44	5.32	4.51	5.35	4.78	5.98
Fine Arts	4.86	+5.77	5.43	5.20	5.09	5.99	4.72	5.60	5.11	5.05
Forestry	5.16	5.12	5.36	-4.39	+5.98	5.67	4.92	5.40	4.58	5.70
Architecture	4.74	5.94	5.32	5.35	6.21	5.90	4.68	5.37	5.12	5.82
Education	5.18	4.94	5.22	+6.01	-4.83	5.32	+5.36	5.28	+5.47	5.38
Engineering	4.61	5.45	4.72	5.14	5.81	5.23	5.05	5.32	4.84	5.66
Journalism	4.62	5.97	5.45	5.56	5.13	5.71	4.92	5.54	4.54	5.50
Speech & Dramatic Arts	4.25	5.28	4.94	5.40	5.43	5.95	4.69	5.32	4.53	5.48
Nursing	5.52	5.39	5.80	6.14	-3.87	4.91	5.75	5.73	+6.40	4.67
Home Economics	4.77	4.60	4.75	+6.35	-4.33	5.57	4.53	4.72	5.40	5.11
TOTAL	4.84	5.21	5.02	5.50	5.40	4.63	4.87	5.28	4.89	5.58

	E/A	Emo	Eny	Exh	F/A	Har	Hum	Imp	Nar	Nur
L.A. Miscellaneous	5.62	4.94	5.09	5.70	5.78	4.20	5.38	5.41	5.08	4.86
L.A. Classics and Humanities	5.44	+5.59	-4.54	5.36	5.39	5.09	4.87	+5.74	5.53	5.13
L.A. Hist. Econ. & Gov't.	+6.10	5.13	5.54	6.19	+6.65	4.12	5.25	5.30	5.24	4.69
L.A. Natural Sciences	4.43	-4.42	5.77	4.50	4.85	4.90	4.48	4.54	4.73	4.40
L.A. Biol. Sciences	5.50	4.88	5.38	5.51	+6.44	3.97	5.32	4.50	5.55	5.19
L.A. Social Sciences	5.30	+5.67	5.09	5.32	-4.81	4.77	5.30	5.29	4.89	4.98
Bus. Administration	5.32	-4.57	5.16	5.56	+6.12	-3.27	4.38	5.03	4.82	4.40
Fine Arts	-4.35	+5.59	5.58	5.59	-4.94	4.61	5.46	5.35	5.50	5.10
Forestry	5.14	-4.06	5.82	4.89	5.65	-3.89	4.44	4.70	-4.54	-4.18
Architecture	5.44	4.82	5.63	5.47	5.60	3.90	4.95	5.55	4.76	4.43
Education	5.22	+6.00	5.42	5.73	-4.71	+5.14	+5.88	5.34	5.65	+5.88
Engineering	4.86	-4.18	5.39	4.94	+6.40	4.65	-4.04	4.77	4.97	4.25
Journalism	6.06	5.28	5.59	5.55	4.59	5.47	5.93	5.38	4.87	5.21
Speech & Dramatic Arts	5.51	6.14	5.02	+7.78	6.34	5.19	5.18	+6.35	+6.64	5.42
Nursing	4.60	5.82	5.81	4.37	-4.17	5.46	5.14	4.76	5.52	+7.08
Home Economics	4.81	5.98	4.65	5.69	-4.19	+5.62	5.05	5.63	+6.39	5.66
TOTAL	5.26	5.25	5.34	5.54	5.45	4.57	5.13	5.22	5.26	5.02

+ and - signs indicate means differing between groups of majors enough to be estimated as statistically significant in the region of the .01 level or beyond.

Table 9 (Cont.)
Stern Activities Index
Stanine Means- Total Senior Class of University-affiliated College (N=1036)

	Obj	Ord	Ply	Pra	Ref	Sci	Sen	Sex	Suc	Und
L.A. Miscellaneous	4.94	4.47	5.79	4.96	4.97	4.75	4.54	4.43	4.50	5.19
L.A. Classics & Humanities	4.62	5.14	5.51	4.92	5.33	4.74	5.39	4.94	5.19	5.26
L.A. Hist. Econ. & Gov't.	4.73	5.07	5.79	5.10	4.71	4.55	5.01	4.74	4.93	4.87
L.A. Natural Sciences	5.50	5.30	4.92	5.17	5.55	+6.42	4.77	4.81	4.95	+5.99
L.A. Biol. Sciences	5.15	5.06	5.13	6.14	5.75	+6.73	5.27	4.94	5.25	5.85
L.A. Social Sciences	5.32	4.65	5.98	4.76	5.24	4.53	5.40	5.28	5.28	4.86
Bus. Administration	5.34	5.12	+6.19	5.64	-4.05	4.37	4.61	4.92	5.08	-4.19
Fine Arts	5.10	4.88	4.98	5.12	+5.82	4.70	5.15	4.88	4.93	4.77
Forestry	5.27	4.69	-4.81	5.75	4.58	+5.77	4.59	4.32	-4.25	4.73
Architecture	5.14	4.84	5.62	5.62	5.37	5.01	5.29	4.42	4.57	4.95
Education	4.92	+5.60	5.25	5.13	5.54	4.67	+5.54	+6.04	-4.12	5.04
Engineering	4.83	5.18	5.35	+6.18	4.69	+6.52	4.78	4.42	5.02	5.40
Journalism	5.20	5.15	4.55	4.44	5.12	-3.34	5.40	5.35	4.37	5.08
Speech & Dramatic Arts	-3.96	5.05	5.80	4.83	4.68	3.48	+6.08	5.59	4.92	-3.79
Nursing	4.83	5.75	4.58	5.22	5.69	4.46	5.28	5.51	5.94	5.39
Home Economics	4.44	5.60	6.24	5.46	5.03	3.95	5.63	+6.18	5.46	-3.74
TOTAL	4.97	5.12	5.45	5.26	5.09	4.89	5.13	5.09	5.12	4.97

Table 10

Summary of Activities Index Scales Contributing to Differentiation
Between Seniors in Sixteen Different Majors at the Same Institution*

Major	N	Intellectual Needs	Dependency Needs	Impulse Expression
L.A. Classics, Humanities	77	Eny-		Emo+ Eny- Imp+ Risk+
L.A. Social Sciences	65			Emo+ F/A-
L.A. Natural Sciences	42	Sci+ Und+	Aff-	Cha- Dom- Emo-
L.A. Hist., Econ., Gov't.	110	E/A+	Bla-	Agg+ Dom+ E/A+ F/A+
L.A. Biological Sciences	32	Sci+		F/A+
L.A. Miscellaneous	66			
Business Administration	88	Ref- Und-		Emo- F/A+ Ply+ Risk+
Fine Arts	71	Ach+ E/A- Ref+		E/A- Emo+ F/A-

*Plus (+) signs following scale name indicate means significantly high at .01 level or beyond. Minus (-) signs indicate significantly low means.

Table 10 (Cont.)

Summary of Activities Index Scales Contributing to Differentiation Between Seniors in Sixt Different Majors at the Same Institution*

Major	N	Intellectual Needs	Dependency Needs	Impulse Expression
Education	211	Cnj+ Hum+	Aff+ Bla+ Cnj+ Dfr+ Nur+ Suc+	Emo+ F/A- Risk- Sex+
Speech, Dramatic Arts	25	Und-		Exh+ Imp+ Nar+
Home Economics	34	Und-	Aff+ Bla+	Agg- F/A- Nar+ Risk- Sex+
Architecture	28			
Engineering	64	Hum- Sci+		Emo- F/A+ Pra+
Forestry	84	Sci+	Aff- Bla- Nur- Suc-	Agg+ Emo- Nar- Ply-
Journalism	24	Sci-		
Nursing	15		Bla+ Dfr+ Nur+	Agg- F/A-

*Plus (+) signs following scale name indicate means significantly high at .01 level or beyond. Minus (-) signs indicate significantly low means.

Implications

I have tried to convey something in this paper about the outlook of various college students today and the college environments in which they are to be found. To change the attitudes and values of students such as those described here would seem to require the reversal of an entire social trend. The liberal humanist shudders at such an intervention, and asks whether indoctrination in alternative value systems can be justified even if we knew how to achieve such changes in a four-year period given over to other purposes as well. All that I suspect we really want, however, is to find the way back to the sharing of common purposes in the classroom again, whatever these might be. This is half the problem, then: to identify student expectancies and purposes in terms which would permit us to restate and compare them with the current behavioral objectives of higher education. We need to know more about personal characteristics of students that are of significance for learning, and we need to know how to relate such characteristics to various kinds of academic experiences.

The excitement of ideas and discussion which I once found at Chicago as an undergraduate, I have re-discovered in some of my own classes today. But the challenge of abstractions, principles, and values in these current instances has been aroused not by intellectualism but by interpersonalism. Students today seem interested in interpersonal behavior, the analysis of motivation, and the problems of dealing effectively and with decency in human relations. Any material placed in this context arouses a depth and intensity of response which belies the apathy and privatism encountered elsewhere.

But there is another aspect to this problem. For many of the students in today's college classrooms, the ability to participate even under the circumstances just described seems severely limited by a deeply ingrained fear of introspection, self-expression, and departure from stereotyped views. Above all, they fear the consequences of personal freedom and seek security in dependence and conformity. Their values, in a socio-political sense, are perhaps less consistently conservative than considered heretofore.] [for students] "The predominant need is not so much for a new set of values, but for a new and different learning experience which provides them with the opportunity to discover the inadequacy of established expectancies and to explore new alternatives. These people are inaccessible to the most important aspects of the learning process in higher education, not as the result of inappropriate values but through the pernicious influence of techniques for relating to others which permit no more than a flight into anomic and selfless conformity. We know relatively little about these people, and much of what is known is a distortion derived from another historical era, but the issues involved seem of unusual significance for the future of our society as well as that of higher education."

Anatole France once wrote, "It is only by amusing oneself that we can learn...The whole art of teaching is only the art of awakening the natural curiosity of young minds for the purpose of satisfying it afterwards." But minds which are unable to amuse themselves are equally incapable of being bemused. They are like those minds which Oliver Wendell Holmes compared with the pupil of the eye--"the more light you pour on them, the more they contract."

The task of education in a democratic society includes the responsibility for opening closed minds, as well as attempting to fill empty ones. In the words of Kahlil Gibran, the Persian poet:

> No man can reveal to you aught but that which already lies half asleep in the dawning of your knowledge.
>
> The teacher who walks in the shadow of the temple among his followers, gives not of his wisdom but rather of his faith and his lovingness.
>
> If he is indeed wise he does not bid you enter the house of his wisdom, but rather leads you to the threshold of your own mind.

THE CAMPUS VIEWED AS A CULTURE

MARTIN TROW
Center for the Study of Higher Education
University of California
Berkeley, California

My topic is "The College as a Culture" and I choose to interpret that as a mandate to talk about some varieties of student cultures on campus, how they come to be, and what effects they have. But before I turn to that, the question arises in my mind: why should any of us be interested in student cultures? Well, one reason is that they are interesting in themselves. Student subcultures have a peculiar fascination for many academic men, something like the fascination of the exotic which takes anthropologists to remote jungles to study the rich and unfamiliar social systems flourishing there. Part of the fascination, but only part, is that if we look closely enough we may see ourselves as we once were; and not only ourselves as we were, but as we might have been if only we had gone to another college, or studied different subjects, or been wiser or more gifted in this way or that. Those of us who study the institutions and processes of higher education ignore our private motives at a cost to our public research; I suspect that many of us, as men of learning, seek in our studies of colleges and universities some better, deeper understanding of a crucial period in our own lives when, perhaps to our own surprise, we found ourselves uncommonly drawn to knowlege and ideas. I am struck at how often, in our informal talks about the college experience, we recall some relevant student experience of our own, and I think we do this as much to illuminate our own lives to ourselves as to shed light on the more general processes of higher education.

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*This paper is drawn from a longer essay done in collaboration with Burton T. Clark "Determinants of College Student Subculture," which will appear in T.M. Newcomb and E.K. Wilson, The Study of College Peer Groups (forthcoming), and is based on research being conducted at the Center for the Study of Higher Education at Berkeley.

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Personal interest and self-knowledge are good reasons for studying student life in college. There remain the more publicly legitimate reasons--the reasons that deans and institutes and centers and foundations expect to hear, and that grace and justify final reports. These are of two general kinds: contributions to the sum of human knowledge, (that is, to science and scholarship); and contributions to educational practice. Our own research center is concerned primarily with adding to knowledge; the sponsors and participants in this conference are of course concerned with that, but also with ideas about higher education that may have some bearing on educational organization and practice. Therefore, in my remarks this afternoon I want to do two things: first, to identify some broad trends in American higher education, and especially in the nature and content of student subcultures, and to place those trends in the context of social and economic developments in the society at large. Then I would like to suggest some implications of those trends in American society for the organization and content of higher education.

The heart of the matter is this: we are concerned with three ① kinds of things; first, with certain outcomes of a college education--specifically with the degree to which students broaden and strengthen ② their intellectual and cultural capacities. Second, with the role that informal social relations among students contribute to these outcomes; ③ that is, with the extent to which they help make colleges civilizing agencies. And third, with the forces in society and the organization of colleges that affect the influence of students on one another--that is, the forces that shape the character and content of the student subcultures within which these informal processes of mutual education by students occur.

Let us look first at the dominant forms that student subcultures take on American campuses. We can distinguish four broad patterns of orientation toward college which give content and meaning to the informal relations of students. When these patterns of orientation define patterns of behavior, sentiment and relationship, we can usefully think of them as subcultures. The names we have given to them are the collegiate, the academic, the vocational, and the nonconformist.[1]

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[1] We want to emphasize that these are types of subcultures and not types of students, despite the fact that we often describe these subcultures by characterizing their members. An individual student may well participate in more than one of the subcultures available on his campus, though in most cases one of them will embody his dominant orientation--will be, so to speak, his normative home on campus.

COLLEGIATE CULTURE

The most widely held stereotype of "college life" pictures the "collegiate culture," a world of football, fraternities and sororities, dates, cars and drinking, and campus fun.[2] And a good deal of student life on many campuses revolves around the collegiate culture; it provides both substance for the stereotypes of movies and cartoons and models itself on those stereotypes. Teachers and courses and grades are in this picture, but somewhat dimly, in the background. The fraternities have to make their grade point average, students have to hit the books periodically if they are to get their diplomas, gestures have to be made to the adult world of courses and grades which provide the justification for the collegiate round.[3] In content, this system of values and activities is not hostile to the colleges, to which, in fact, it generates strong loyalties and attachments. It is, however, indifferent and resistent to serious demands emanating from the faculty, or parts of it, for an involvement with ideas and issues over and above that required to gain the diploma. This culture is characteristically middle and upper middle class--it takes money and leisure to pursue the busy round of social activities[4]-- and flourishes on, though is by no means confined to, the resident campuses of big state universities.[5]

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[2] For a description and analysis of campus subcultures, see Angell (1928), Johnson (1946), McConn (1928). For an early classic indictment, see Woodrow Wilson (1925). For the most recent sociological analysis of this student world, see Rose K. Goldsen, et al, (1960), pp. 60-80.

[3] Goldsen, et al (1960), quote from interviews with fraternity men in their sample (p. 73):

"Lots of pledges come in with the idea that fraternity life means all fun and no studying. We quickly educate them. Not that we want grinds--no--we try to get them to maintain a respectable average. Nothing very glittering, of course, just respectable."

"We try to keep our house's grades up to standard. There's plenty of help for the brothers who fall behind. We have files of old examinations in almost every course that they can use in studying. We even assign certain men to tutor any brothers who need help. They don't have to get super grades. After all, when you get out of college nobody asks what your grades were. Just maintain a decent average."

[4] In 11 universities across the country, fraternity members were found on the average to come from considerably wealthier homes than do independent students. In 1952, only 24 per cent of the fraternity men as compared with 46 per cent of the independents reported their fathers earning under $5000 (computed from data in Goldsen, et al, 1960, table 3-3, p. 71).

[5] On the collegiate culture in the Big Ten, and much else, see Riesman and Jencks (in press).

Part-time work, intense vocational interests, an urban location, commuter students, all work against the full flowering of a collegiate subculture, as do student aspirations for graduate or professional school, or more generally, serious intellectual or professional interests on the part of students and faculty.

VOCATIONAL CULTURE

The countervailing forces of student poverty and vocationalism, on the one hand, and serious intellectual or academic interests on the other, are strong enough on many American campuses which differ in many other respects, to make the collegiate culture relatively weak. In the urban colleges which recruit the ambitious, mobility oriented sons and daughters of working and lower middle class homes, there is simply not enough time or money to support the expensive frivolities of the collegiate culture. To these students, many of them married, most of them working anywhere from 20 to 40 hours a week, college is largely "off-the-job training," an organization of courses and credits leading to a diploma and a better job than they could otherwise command. These students have very little attachment to the college where they buy their education somewhat as one buys groceries. But like the collegiate culture, these students, for whom college is an adjunct to the world of jobs, are also resistent to intellectual demands on them beyond what is required to pass the courses. To many of these hard-driven students, ideas and scholarship are as much a luxury (and distraction) as are sports and fraternities. If the symbol of the collegiate culture is the football and fraternity weekend, the symbol of this vocationally oriented college culture is the student placement office.

ACADEMIC CULTURE

Present on every college campus, although dominant on some while marginal and almost invisible on others, is the subculture of serious students, the academic culture. The essence of this system of values is its identification with the intellectual concerns of the serious faculty members. These are the students who work hard, get the best grades, but also talk about their course work outside of class and let the world of ideas and knowledge reach them in ways that neither of the foregoing types do. Where participants in the collegiate subculture pursue fun, and the job-oriented pursue skills and a diploma, these students pursue knowledge; their symbols are the library and laboratory and seminar. If the faculty members who embody these values also represent the college as a whole, then this academic subculture is both identified with the college and involved with learning. For these students, their attachment to the college, which may be as strong as among the collegiate crowd, is to the institution which supports intellectual values and opportunities for learning; the emotional tie is through the faculty to the college, and through the friends of similar mind and temper made in college. This is the climate encouraged at the academically strongest colleges, and when colleges aim to upgrade themselves, it is the students already oriented in this direction whom they seek to recruit. The products of this culture are typically aiming at graduate and professional schools; it is not surprising that they identify so strongly with the faculty, and internalize the scholarly and scientific habits of mind and work as part of their anticipatory socialization to their future professional roles. These students are often oriented toward vocations, but not so directly or narrowly as are the lower and lower middle class commuters who hold the "consumer-vocational" values described above; they choose "a basic general education and appreciation of ideas" more often than "provide vocational training" as the goal of education most important to them (Goldsen, *et al*, 1960). In any case, it is not necessary to decide whether they are concerned with their studies more because of their career ambitions or for the sake of learning. The distinctive qualities of this group are (a) they are seriously involved in their course work *beyond* the minimum required for passing and graduation, and (b) they identify themselves with their college and its faculty.

NONCONFORMIST CULTURE

It is in this latter respect, identification with the college, that "nonconformist," "intellectual," "radical," "alienated" students differ from their serious academic classmates. Some kind of self-consciously nonconformist student subculture exists in many of the best small liberal arts colleges, and among the undergraduates in the leading universities. These students are often deeply involved with ideas, both the ideas they encounter in their classrooms, and those that are current in the wider society of adult art, literature, and politics. To a much greater degree than their academically oriented classmates, these students use off-campus groups and currents of thought as points of reference and criticism. The distinctive quality of this student style is a rather aggressive nonconformism, a critical detachment from the college they attend and its faculty (though this often conceals a strong ambivalence), and a generalized hostility to the college administration. The forms this style takes vary from campus to campus, but where it exists it has a visibility and influence far beyond its usually tiny and fluid "membership."[6] Its chief significance is that it offers a genuine alternative (if only a temporary one) to the rebellious student seeking a distinctive identity in keeping with his own temperament and experience; in a sense it provides some intellectual content and meaning to the idealism and rebelliousness generated in adolescence in some parts of American society. Where the preceding three types of students pursue fun, a diploma, and knowledge, respectively, these students pursue an identity, not as a byproduct but as the primary and often self-conscious aim of their education. And their symbol is a distinctive style--of dress, speech, attitude--that itself represents the identity they seek.

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[6] The "nonconformist" subculture is elusive; it is difficult to assess its extent or importance now, and even more difficult to estimate whether it is growing or declining in importance. It may in fact constitute a residual category, concealing within it quite different kinds of attitudes and orientations, some of which are on the rise, at least among a significant minority of American students, some of which are declining in their importance. This category is in some ways the most interesting of all; here, next to the fashionable Bohemians and the compulsive rebels are those who already in college exhibit the radical cosmopolitanism and skepticism, the alienation from merely "institutional" attachments, and the commitment to abstract ideas that are marks of the intellectual.

It is hard not to romanticize such a romantic set of attitudes and behaviors, especially when we know so little about where campus bohemianism exists, what kinds of students identify themselves with it, how closely and for how long, how deep and genuine are the commitments to art and ideas its members profess, what are its effects on its members, for other students on campus, for the whole institution. Firm knowledge which answers these questions may reduce our need to romanticize the "nonconformists" as it may increase our respect for them.

As you may have observed, the types of student value systems and subcultures we have been describing emerge from the combination of two variables: (a) the degree students are involved with ideas, and (b) the extent to which students identify with their college. If we dichotomize these variables, the above four types of student orientations (which, as we noted, provide the content of the most important and distinguishable student subcultures) emerge thus:

Jencks and Riesman (in press) draw a distinction between the academic and the intellectual. The former, in their usage, refers to the pursuit of knowledge within some scholarly or professional discipline by experts and specialists (or their apprentices), whereas intellectual inquiry is the pursuit of wisdom--answers to perennial problems of living--through the play of intelligence rather than through specialized learning.

Jencks and Riesman observe that the official view holds that "the intellectual and the academic are largely synonymous," and they are concerned with those student organizations at Harvard that "have emerged to defend intellectual concerns against overt or covert pressures from the curriculum" Our typology to some extent cuts across this distinction: the academic cultures we speak of include students with intellectual interests as well as "grinds" submissive to the demands of the faculty. When students' intellectual interests are not merely independent of, but also at odds with, the curriculum, they often form the nucleus of what we have called "non-conformist" cultures, which, however, also include styles and interests that are by no means intellectual. In our typology, the members of the academic subcultures tend to link their interests to the curriculum; the non-conformists pursue theirs outside it.

		Involved with ideas	
		+	-
Identify with their college	+	1	2
	-	3	4

1. The academic subculture
2. The collegiate subculture
3. The "nonconformist" subculture
4. The consumer-vocational subculture

These subcultures are fluid systems of norms and values which overlap and flow into one another on any particular campus in ways that challenge the effort to distinguish them analytically. Yet that effort, for all the violence it does to the complexity of social life, appears justified by the congruence of these types with observed reality, and by the light it sheds not only on student subcultures themselves, but on colleges as social organizations embedded in a larger social structure. Having made these elementary distinctions among types of student subcultures, we can now raise the following questions about the ways in which these subcultures are linked to the larger social structure and to the essential characteristics of colleges:

1. In what strengths and combinations are these orientations found in different types of colleges? Among the 9000 undergraduates on the Berkeley campus of the University of California, all these systems of values are represented, and in some strength with perhaps the collegiate dominant; while among the equally large number at San Francisco State, the collegiate subculture is almost wholly absent (Riesman and Jencks, in press) and the academic and nonconformist subcultures are weak compared with the dominant "consumer-vocational" orientations of the great majority. At academically elite schools such as Reed and Swarthmore, the academic subculture is clearly dominant, with nonconformist values represented, while both the consumer-vocational and the collegiate are less strong and visible. And we can think without difficulty of schools where the older collegiate values still reign supreme, tempered perhaps by an academically oriented minority, with the leaven of bohemians almost wholly absent.

2. What are the social characteristics of the typical members of these different subcultures; where in the social structure do they come from, and what are the links between their shared life experience and their college styles and orientations? There are distinctive patterns of life experience that heavily condition the qualities and characteristics that students bring with them to college; the question is, what are the important qualities, and what are their sources? Behind the patterns of life experiences lie social class, racial and ethnic ties, and religious identifications; it is the subcultures in the general population, with their values and orientations and aspirations, that shape the orientations most students initially assume toward college.

3. How do these demographic (we might better say biographical) linkages differ in different kinds of colleges? We have already suggested the connections between lower and lower middle class origins, strong mobility aspirations, and the consumer-vocational orientation. But some students thus oriented will find themselves in a minority, in an Ivy League college, for example, while others will find themselves among the majority in, say, a municipal college. How do these similar students deal with their college experience in these quite different situations?

4. What are the historical and structural characteristics of colleges that affect the character of their cultural mix? The purpose of an institution, its historical traditions, its size and rate of growth, its sources of funds and faculty, its physical location, the images of it held in different parts of the population--these and other factors shape the character of the student life within a college. The task is to specify how these forces operate, in conjunction with the forces in the larger society that shape its raw material and receive its products.

Now having raised these questions, I would like to back off from them and try to put them in the perspective of developments in the larger society, and the organization of higher education.

THE LARGER SOCIETY

Among the broad forces affecting colleges and student cultures are the values regarding higher education held in different parts of the population--notions of what a college is and ought to be. These values are very heavily shaped by the changing requirements of the occupational structure which in turn reflect the changing character of the society's major social institutions.

In society as a whole, and especially in the sections that send their sons and daughters to college and hire the college trained, there appears to be a long-range trend toward greater "rationality," toward the sober bureaucratic virtues of prudence, calculation, and the acquisition of useful skills and knowledge.[7] The immense growth, both in size and importance, of large-scale enterprise--big business, big government, big labor, big education--and the concomitant growth of the technical, managerial and salaried professional occupations[8] that these big organizations employ have their effects on the colleges where the future occupants of these jobs are trained. More students find that bureaucratic career lines dominate the post-college horizon, and more plan to pursue post-graduate studies.[9] The growing number of corporate job interviewers show the same kinds of interest in college transcripts as do the deans and graduate faculties reviewing the applications of would-be academic men and professionals. Of course, the sobering effect on college activities and relationships of these anticipated scrutinies of college records is escaped by some students. The boy who envisions a place for himself in his father's automobile agency or other small business can throw himself into the fun of the collegiate culture with a lighter heart than the boy whose college record will be examined by the corporate recruiter or graduate school dean. But the number of students who can afford to ignore the record is diminishing.[10]

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[7] For a recent summary of research on American values, see Kluckhohn (1958).

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[8] Between 1950 and 1957 the total number of jobs rose 8 per cent, but the fastest growing categories were professional, technical, and kindred workers, which increased by 43 per cent. (Bogue, 1959).

[9] The proportion of college students who go on to graduate or professional schools is rising very rapidly in some colleges, and where it does, it changes the character of undergraduate life. For example, "William C. DeVane, dean of Yale College, estimates that 77 per cent of the class of '60 will continue. He adds that ten years ago, the figure was about 50 per cent and back in 1920, when he graduated, only about 20 per cent continued their studies." (New York *Times*, Sunday, June 5, 1960.) The proportions continuing vary greatly from college to college. Such different colleges as Dartmouth and C.C.N.Y. report 60 per cent of their graduates will continue their studies. By contrast, only about 25 per cent of the male graduates of the University of Wisconsin will continue. The very rapid academic upgrading of elite Eastern colleges has seriously undermined the collegiate culture on those campuses. (Bloomgarden, 1960.) Its last strongholds are in those big state universities which recruit large numbers of upper middle class students,relatively few of whom continue their studies after graduation.

[10] For some supporting "evidence" see: "Is Apathy on the Way Out," *Mademoiselle*, May, 1960. "As academic pressures are stepped up, students have less time to rehearse cancan numbers for variety shows, hunt down floodlights to illuminate fifty-foot homecoming signs, and fashion castles out of tin foil for floats. The result: any number of traditional extracurricular activities are being scrapped." And the article goes on to cite other illustrations of what a Princeton man calls "creeping asceticism." See also Goldsen, *et al*, (1960).

While the collegiate subculture is in no immediate danger of extinction, especially on its state university preserves, the sober (often merely humorless) demands of the Cold War and large organizations for bureaucratic and technical expertise are having their effects on the values and social relationships of American college students. And this influence, by and large, has been to strengthen the academic and especially the vocational orientations that I have discussed earlier, and to reduce the prestige and appeal of the collegiate.

These broad movements in American life--the increasing importance of training and expertise (and the impersonal marks thereof) demanded by the salaried occupations and professions, coupled with the massive growth of the college population, cannot but affect the character of student life in college. For these major social forces determine where college students come from and where they are going, and these widely shared biographical facts, in conjunction with the characteristics of the colleges they go to, heavily determine how students use their college experience, what they are there for, what it is they are seeking. Many of the sons and daughters of working class and lower middle class origin who now go to college in increasing numbers, see college in almost purely instrumental terms, as the place where they can buy the skills and diplomas that will earn them good jobs in some large organizations (Kahl, 1953 and Trow, 1958). When these students go, as so many of them do, to large "people-processing institutions" without a tradition either of intellectual playfulness or a serious commitment to ideas, then the vocational subculture flourishes: on those campuses the absolute level of student interaction is lower, and what there is centers on the shared training experience--as Jencks points out, friendships are shaped very largely by common departmental affiliations. Upper middle class students more often can afford the luxury of an interest in ideas, as they also can afford the luxury of the collegiate subculture and its fun morality. Which way they go depends on the intellectual climate in their homes, on their own academic skills (which have made their experience with ideas rewarding or painful), and on the kind of college they eventually enter, which in turn is largely determined by the intellectual stimulation of their home environments and their precollege academic performance.

These summary remarks greatly oversimplify a complex web of social and social-psychological processes. But over and above these processes within students' biographies, the issue of where students come from and where they are going heavily influences their college experience. Lower middle class origins predispose students to take a vocational stance toward their college studies and relationships;[11] in the upper middle class, aspirations for occupations and professions (most especially academic life and science) that involve continual formal study and learning after graduation, predispose students toward an involvement with ideas. We may suggest that these two factors--of social origins and occupational aspirations--tend to lead students into the broad types of student subcultures we have discussed in this fashion.

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[11] When working and lower middle class boys do go into a profession, it is likely to be one of the two--engineering and education--that require least post-graduate training (Trow, 1958, and Rosenberg, 1957, p. 55, table 31). In Great Britain, as well, "It is no accident that the technologies take in proportionately more young people of working class origin than any of the other faculties. If the proportion for the arts is also high, this is because of the function of arts faculties in the modern universities as professional schools for would-be grammar school teachers" (Halsey, 1958, p. 151).

Where the importance of skills and knowledge acquired in college is high, as in science, scholarship and the professions, and in an increasing number of jobs in government and industry, the student is likely to hold either vocational or academic orientations toward his education, depending on whether his interest in the skills or knowledge is purely instrumental to his purposes, or whether his interest in knowledge and ideas is in some degree for their own intrinsic qualities and rewards. On the other hand, where the importance of these skills and knowledge gained in college is low, as, for example, in many kinds of sales positions, then the student is more likely to be free to take part in the collegiate culture. If he cannot afford that, either financially or psychologically, his vocational orientation toward his college education may be the special, highly detached kind that is simply concerned with getting the diploma that he wants for its occupational or social value.

Of course, this is a gross oversimplification. It applies, if at all, chiefly to boys (though we suspect that girls take part in college subcultures similar to those of the husbands they wish for). Moreover, recruitment to those subcultures is affected by many other factors, among them the characteristics of the colleges that students go to.[12] Nevertheless, such a summary typology links broad trends in the society at large to the distribution of student subcultures on American campuses. For insofar as skills and formal knowledge grow in importance, with the growth in the complexity of the society and its institutions, and as more and more students of lower class origins go to college, the vocational and academic orientations grow in importance at the expense of the collegiate.

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[12] For example, while students from working and lower middle class origins generally are more vocationally oriented and less culturally sophisticated than are students from upper middle class and professional homes, these differences are less likely to be found among the students within any particular college. Our data show that at Antioch, Reed, and Swarthmore, the small minority of students from lower class origins are, in their cultural habits and orientations, indistinguishable from the majority of students, who come from upper middle class and professional homes, while at San Francisco State the minority of upper middle class students are culturally indistinguishable from the students of lower and lower middle class backgrounds. The effects of selective recruitment (through both self-recruitment and admissions screening) along lines of academic orientations and aptitudes are so strong that they wash out or at least greatly reduce differences in cultural and intellectual orientations that stem from differences in social origins among students within any one of these colleges. This finding is supported by data collected by Hanan Selvin among students at the University of California at Berkeley. Selvin, studying political tolerance among students, found students from working class origins even more tolerant than students from middle

The great conflict on American campuses over the past fifty years has been between the academic and the collegiate subcultures, with the faculty upholding the intellectual values, and the majority of students successfully opposing those with their own nonintellectual or anti-intellectual interests. Increasingly, however, the struggle will be between the vocational and academic subcultures, with the cleavage between the two more nearly vertical--that is, with more proponents of each set of values on both sides of the student-faculty line. Both the vocational and the academic orientations are "adult" in a way that the collegiate culture is not; while collegiate values and practices were widely condoned and tolerated by college authorities, very few adults in college were prepared to defend them as an adequate definition of the college experience. By contrast, the vocational orientation as the primary orientation to college is held in very respectable quarters, finds expression in books on educational philosophy, and has many spokesmen both among college teachers and administrators. Thus the new conflict between vocational and academic values (and it is new only in extent and not in incidence--it has been a mark, for example, of the upgrading of normal schools to the rank of state colleges all over the country for many years) is not likely to be as dramatic as the old, both because the symbols are less clear and because the cleavage between these cultures within colleges is not so sharply drawn along the

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class homes, despite the fact that in the general population manual workers are on the whole a good deal less politically tolerant than middle or upper class people (Selvin and Hagstrom, 1960). There is clearly a very selective recruitment to UC of students from working class backgrounds, one which washes out, or, as in this case, reverses relationships found in the general population. This selective recruitment does not necessarily make the student community more homogeneous in its attitudes and orientations, but it does increase the importance of other lines of cleavage than class origin among students. This is even more likely to be the case in colleges which do not provide for residential sorting by wealth.

traditional student-versus-faculty lines.[13] But the issues are equally consequential, both for the student's relationships and experience in college, and more broadly, for the nature and functions of higher education in America.

TYPES OF VOCATIONALISM

The two kinds of vocationalism we identified above--the first, an interest in college as the source of saleable skills and knowledge, the second, an interest in college as the source of a saleable diploma or certificate--are found side by side on college campuses, usually associated with different departments and majors, but they have different consequences for student development. Riesman and Jencks, in their comments on San Francisco State College, find "diploma vocationalism" predominant over "skill vocationalism" on that campus, and increasingly so for students as the direct relevance of their "training" for their intended careers becomes less apparent the longer they remain in college.

> Freshmen (at S. F. State) have an ideology of vocationalism, but not its substance. Thus, while nine out of ten say they know what they want to do when they graduate, and seven out of ten say that the purpose of the college is to help them do it, only five out of ten know what they want to major in. In other words, they have no clearly formulated conception of how the college would implement their vocational aims. They only know that they need a diploma to get the kinds of jobs to which they aspire and they innocently

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[13] The collegiate symbols were sufficiently outside the workaday adult world to be instantly recognizable in a cartoon or film, and their romanticization of adolescent vitality and irresponsibility made that world seem exciting, full of freedom and fun and unearned money. The academic subculture has its prestigeful symbols: the academic procession and cap and gown, books and library and laboratory and classroom. But the vocational subculture is almost an adjunct of the adult world of jobs and work: it has as yet no defining symbols which distinguish it as a special college subculture, unless it be the engineer's slide rule in its orange case swinging from the belt. But it is inherently too humdrum and work-oriented ever to be very glamorous, a fact which affects both recruitment to it now and its fate as an alternative image and definition of higher education in the future. The fact that the vocational orientation has no symbols of its own, but nevertheless is serious, and is oriented to the adult world of work, allows it to borrow the traditional symbols of academia: so a picture of a college lecture hall or of students hard at work in a library can as easily be signs of vocational training as of liberal education. But the common use of the same set of symbols for vocational and academic subcultures makes it more difficult for issues between them to be joined, though the conflict is at the heart of fights over admissions policy, curriculum and standards on many campuses.

> assume that there must be some good 'practical' reason for this--presumably that colleges teach people how to do some specific job.
>
> By their sophomore year, many students have discovered that this is not true, and have absorbed the academic faith of a majority among the faculty that college ought to give students a 'general' education. As an increasing proportion of students have had some experience with the world of work, more and more become skeptical of the 'practical' value of their studies. They come to realize that college cannot teach them how to teach, or how to do business. For an important minority this realization produces enthusiasm for 'general' education, for ideas, and for Culture. For the majority at State, as at most 'first generation colleges,' it leads only to a desire to meet college requirements, to 'get through,' and to get a diploma which will allow them to get a job they can learn by experience. College may thus be viewed as an obstacle, rather than an opportunity. The result at State is more often bored indifference than the aggressive or defensive anti-intellectualism found in many more collegiate institutions (Riesman and Jencks, in press).

The disillusionment and boredom of many students arising out of their skepticism regarding the practical relevance of their studies (so unlike the intense "skill" orientations of engineering students) lead to much mere time serving. But they also open some to an awareness of the "importance" of general education and ideas which Riesman and Jencks note at San Francisco State and Norman Miller finds on other state college campuses (Miller, 1959). Some of this is a genuine step toward a response to the intrinsic intellectual rewards of their nonvocational studies; for many others, especially upwardly mobile students from culturally impoverished origins, "Culture" is the skill which they aim to acquire in college. The style of the college-educated man--a certain familiarity with ideas, a mode of speech, certain tastes in books and furniture and politics and music--becomes part of the saleable package which students who will be selling themselves and not their skills prepare in college (Trow, 1960). And when time and money allow, these same students may seek to complement their "cultural" skills with social skills through participation in an approximation of the collegiate culture.

Skill-oriented students, like engineers, while less likely to be bored or indifferent to college, are also much more stubbornly resistant to the appeals of "general education"; their styles (and identities) are more firmly crystallized; in many respects, they are not really in college, but are already on the job. But for the large group of vocationally oriented students for whom college training appears to have little direct relevance for the work they will be doing, the directions of development of interests, skills and styles in college are more open, and for them the lines between vocational, collegiate, and academic orientations become blurred. Which way these students go, how genuinely liberating and civilizing their college experience is, then depends heavily on the organization of the college, and especially on its success in developing and sustaining an autonomous climate which supports enthusiasm for learning.

In the foregoing, we have suggested that vocationalism, as an orientation toward college and learning, is growing relatively stronger at the expense of both the collegiate and the academic. It is worth recapitulating some of the forces behind this tendency to see their mutually reinforcing effects.

1. *Expansion of higher occupations*. In considerable part, the expansion of higher education is a response to the growth of professional, managerial, and technical occupations which require advanced training. As a result of this change in the occupational structure, and also contributing to it, the growth in the college population in recent years has been very largely in fields of study that are directly vocational, such as business administration, engineering, and education.[14]

2. *Education as the means of mobility*. Formal education has been the chief ladder of mobility for aspiring lower and lower middle class people in America for many decades. Their movement toward college continues the secular trend toward more and more education which saw the growth of nearly universal secondary education in the thirty years between 1910 and 1940. People of lower social origins now increasingly see college as the prerequisite for the economic and social advancement of their children, and these perceptions are reflected in the rapidly growing college enrollments. When education is primarily an instrument for the achievement of higher status, rather than a way to maintain and legitimate it, it tends to be defined primarily in vocational terms--as a way of getting the training and diplomas which are needed for the better paying jobs.

3. *Responsive character of public colleges*. This rapid expansion of college going among job-oriented children of lower social origins has been very largely to the public colleges. These colleges are generally free, conveniently located, and generous in admission; they are responsive to state and local demands and willingly train for the expanding array of occupations that require advanced skills. Comprehensively organized, they take on many characteristics of a large service enterprise. Their commitment to liberal education is partial rather than total.

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[14] The big three vocational courses--business administration, engineering, and education--which account for nearly half of all undergraduate degrees, are growing nearly twice as fast as the total number of college graduates. In the four years between 1954-55 and 1957-58 the number of degrees earned in these fields increased by 49 per cent as compared with an increase of 27 per cent in all bachelor's and first professional degrees. (Computed from data presented in American Council on Education *Fact Book*.)

4. Bureaucratization of academic organization. These comprehensive colleges are typically people-processing institutions, whose administrative staffs must deal with and organize the scattered activities of great numbers of students enrolled in a great variety of programs. Relations between teachers and students under these conditions are typically in the mass, usually fleeting, and largely impersonal. Additionally, in the university, teachers' involvement with students is lessened by commitment to research, professional, and off-campus service. The tendency toward secondary impersonal relationships among students and between students and faculty members, fits vocationalism, where technical information must be efficiently transmitted.

5. Withdrawal of student involvement. Students are increasingly enrolled in colleges that are largely nonresidential. Living at home and holding part-time or full-time jobs, students visit the college campus to attend class or use the library. Students drop in and out of college, some finishing in six to eight years while many do not finish at all. In brief, the student role is narrowed to formal course work and squeezed in among other roles that are oriented off campus.

All these forces which are on the rise in American higher education tend, we believe, to reduce the impact of college on the student and to support vocationalism. Increasingly, students with narrow vocational interests enroll in colleges whose faculties and administrators are neither able nor, in some cases, strongly motivated to modify those interests and orientations.

The small distinctive colleges of high academic achievement filled with talented upper middle class students headed for graduate school are in another world. The academic subcultures which flourish in those colleges require a high average level of cultural sophistication, the inclination and leisure to cultivate intellectual interests, the help of personal attention from a devoted and able faculty, and the luxury of having merely to maintain rather than newly achieve high social and economic status. These schools will continue to play a role in American life, especially in its intellectual life, out of proportion to the numbers of their graduates. But despite the worries of their presidents and professors about their effectiveness, these schools do not pose the most difficult questions regarding the bearing of student life on higher education. It is in the large public colleges and universities where vocationalism looms large that the contribution of student life and relationships to education becomes most problematic.

But while I may appear to have been emphasizing the special obstacles which inhibit the development of creative student subcultures on large public non-residential campuses, there is another side to the story. The very conditions which make impossible the growth of student intellectual communities centered on residence halls and eating places paradoxically free commuter colleges from the burden of providing custodial care for their students.

The extent to which colleges in the United States have accepted the custodial role has greatly reduced their autonomy to pursue educational and intellectual objectives. A college standing _in loco parentis_ to students deals with children rather than adults; it is expected to guide unformed minds along conventionally approved paths. A college which defines students as adults is freer to encourage qualities of independence and skepticism, qualities which are subversive of received truth at the same time as they are aspects of the ideal outcome of liberal education.

Residential colleges are much more commonly expected to assume the parental functions of nurturance and guidance, and the "freshmen girls" at coed residential colleges exert a pressure, both as fact and symbol, against intellectual boldness and innovation. But the commuter colleges do not, as often as they might, translate their freedom from these expectations into serious commitments to liberal education. And this is so because, for the reasons we have discussed, they are so commonly vocational in orientation; they stand less in the role of parent, but more in the role of employer, are less the specialized surrogate of the family, but more the pre-employment training arm of industry and government. The exchange greatly affects the whole quality of the educational experience, but it does not necessarily increase the autonomy of the college to pursue educational purposes which are different from, and sometimes at variance with, the socialization of children and the training of employees.

Nevertheless, despite the dominant philosophy of service which minimizes the autonomy of so many public nonresidential colleges, in some the relative freedom from the custodial function has permitted the emergence of genuinely adult and creative undergraduate education. At some commuter colleges, especially those in large cities which recruit able and sophisticated students and faculty members who have independent connections with local intellectual and cultural circles, the larger worlds of politics, literature and art find an institutional home in some departments or segments of the college. These groups of faculty and students create their own nonconformist cultures around shared interests, sometimes in the institutional nooks and crannies of what are predominantly vocational enterprises. The English and Drama departments at San Francisco State are an illustration of this phenomenon: these departments are in some ways more closely connected to the cultural life of San Francisco (and thus to larger cultural movements) than they are to the College itself; within them there is a good deal more direct relationship of faculty to student, and the creation of a genuine cultural community with its strong involvements, at considerable variance with the impersonal and fleeting relationships typical of other departments and of much of mass higher education. If the nonresidential character of much of the public sector of higher education makes more difficult the development of institutional autonomy, and tends to reduce the degree to which the majority of students are encompassed, and affected, by their formal education, the same factor may free parts of such colleges from their custodial responsibilities and thus allow them to develop pockets of adult undergraduate education which have impact on a minority of their students. The rapid growth of public commuter colleges increases the need for additional study and encouragement of such developments.[15]

Finally, the organization of the college as a community has profound effects on student life in ways that have been given too little consideration by administrators and too little study by scholars. The possibilities in this respect vary with circumstances; a residential college can purposefully shape its own internal organization in ways that a commuter college cannot; a college of ten thousand has problems unknown to the college with a thousand students. Nevertheless, what we have said about the effects of size and impersonality, of the dilution of intellectual interests among great numbers of students and their neglect by a faculty who deals with students fleetingly and in the mass, suggests that structural innovations working against these anti-intellectual forces might contribute to the growth and maintenance of academic subcultures among at least a significant minority of students. The main thing is to get such students together, so that they can stimulate and support one another's often precarious commitments, and to provide direct and personal encouragement and rewards for such commitments by similarly committed faculty members. This requires serious effort by the administration and at least a part of the faculty to minimize and destroy the "people processing" aspects of mass higher education.

One way an administration can try to do this is by attempting to reduce the *effective size* of an institution, even without a reduction of its absolute enrollment, by creating what are in effect distinctive smaller communities within the larger organization, communities which include both students and faculty, which have a sense of identity, and above all whose members share interests and commitments which can be supported and furthered, rather than diluted and discouraged, through the ordinary on-going relations of the members of the community. Such communities cannot be called into being by proclamation; they have to have structural definition and support, formal membership, physical place for meeting and working, and insulation against distracting and competitive interests and appeals. They must be small enough to allow members to know one another personally and as wholes; they must be stable enough to allow patterns of sentiment, identification, interaction and intellectual support to develop; they must be reasonably homogeneous with respect to the values and interests represented so that members can center their relationships around these shared and developing interests, rather than, as in the institutions of the collegiate, around the static interests of the youth culture which comprise the lowest common denominator of student life (Trow, 1959). In short, these have to be genuine intellectual communities, rooted in residence halls and groups of departments, or in some other combination of structured interactions and shared intellectual interests. In colleges like Swarthmore and Reed, where the academic subcultures pervade the entire student body, the residence halls themselves come to define these academic communities, especially after self-selection has increased the homogeneity of interest and temperament within them. In universities where the academic values are by no means predominant, but compete with vigorous collegiate and vocational orientations, the division of a student body in the residence halls may simply reproduce the heterogeneous and atomized mass of students in smaller units: the structural definition of a community is present, but not the essential commonality of interest and value. That, at least, seems to be the case on a campus like Berkeley's. But relatively little is known of the nature and determinants of student communities, and of the role which administration action can play in the creation of the best of them.[16] Here, if anywhere, a call for research is not mere ritual: the potential gains both for organizational theory and educational practice are very great.

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[15] In 1956 only 30 per cent of all college students lived in college housing. A third lived with parents or relatives while over a quarter made their own living arrangements (*Fact Book*, p. 121). Also, see the study of Columbia University's School of General Studies, (Zetterberg, 1958).

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[16] A notable and stimulating exception is the recent work of Selvin and Hagstrom (1960) on living groups on the Berkeley campus.

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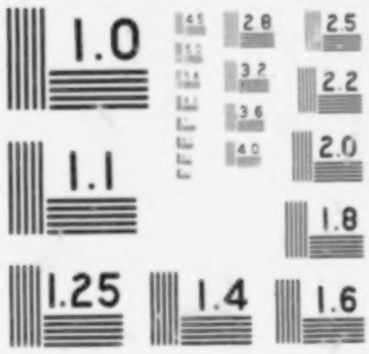

MICROCOPY RESOLUTION TEST CHART

NATIONAL BUREAU OF STANDARDS-1963

INSTITUTIONAL RESEARCH ON STUDENTS:

Research on college students, like most behavioral research, can best be conducted and understood in a developmental framework. While the process of selection, admission, attendance, and withdrawal or graduation from a college or university involves a relatively circumscribed time interval, there are both important antecedents and presumably important consequences of this college attendance. The implications of this point of view for research on college students should be immediately obvious. It suggests a "cradle to the grave" orientation for research on college students. As a matter of fact, Trow, in his paper, suggested that certain prenatal factors, like the socio-economic condition of one's parents, are very potent in determining the impact of college experience.

If college experience is regarded as fitting into an on-going stream of life, it should not matter where the longitudinal slice is taken in order to study either the antecedents or the consequences of college attendance. Of course, college attendance can be studied (as can the direct impact of college life) while it occurs.

While Trow made the point that certain background or prenatal factors are important, some psychoanalysts like Erickson (1950) would argue that the most potent factors in determining the impact of college experience are those in early childhood. Certainly, most of us are convinced of the importance of certain prior educational experiences, particularly those in the immediate educational experience of college students--that is, secondary schools--in shaping college behavior and in determining the influence of collegiate experience. If this were not true, no attention would be paid to secondary school records, in either developing admission policies or in shaping educational curriculum, and there is probably no college that takes such an historical approach.

The college experience itself, of course, may be studied directly. Here would be included studies of selection, admission, differential education, the immediate impact of college experience, and retention and withdrawal within the framework of particular institutions, groups of institutions, and so on. Included here also are studies of the social and psychological characteristics of the institutions and how these differential characteristics of the institutions shape the young people who are exposed to these conditions. Finally, in this developmental framework, the subsequent life of ex-collegians--both graduates and nongraduates--should be followed in order to assess the long as well as the short-term impact of college experience. Here

A SUMMING UP

LEONARD GOODSTEIN
Director, Counseling Center
University of Iowa
Iowa City, Iowa

would be included the impact studies, although most of them are relatively short-range in terms of their follow-up. There is almost no information at all on any of the really long-term consequences of college attendance.

Most studies of college students, both the completed studies and those which are still in progress, have been concerned with both the more immediate antecedents of college attendance and the more immediate consequences--indeed most of the studies of impact and most of the studies of consequences have been anchored in data collected during college attendance itself. In these studies there was no period of incubation, of maturation, which might permit some of the nascent effects of college education to be demonstrated. This research emphasis on the immediate is, of course, understandable; data must be obtainable, and college students are available on the campus. While there can be no objection to short-term research, it should be remembered that college attendance has both early antecedents and long-and short-term consequences which are quite important, although difficult to study.

A careful review of the earlier papers suggests certain similarities, some generalities, some common themes. A developmental framework for understanding the college student is one that is implicit in each of the substantive papers.

Each was concerned with what the college student was prior to becoming a college student, what happens to him while he is in college, and what happens subsequently. All of the papers were concerned with higher education in its broadest sense--the changing of student values apart from the more narrow considerations of academic disciplines. Each was concerned implicitly or explicitly with the problems of determining the directions, the nature, and the techniques of changing student values. All reflected some concern with the current characterization of the student, by Jacob (1957), as self-confident, self-satisfied, generally unconcerned with the state of the world, and content with prevailing standards, attitudes, and moralities. All seemed especially concerned with Jacob's conclusion that college has had little effect upon the value outcomes of general education.

This set of concerns ran through all five papers and serves as the unifying theme of the conference. Despite this generality, despite this theme, despite the attempt to see college education in its broadest sense, the foregoing papers were rather limited in scope. The important influences which exist prior to secondary school were not discussed, except incidentally by Trow. The assumption was that if a college student has a past, the past begins with the twelfth grade. Secondly, there appears to be the lack of serious interest in any long-term follow up. Other than the interest by alumni associations in demonstrating the financial well-being of their graduates, there seems to be no on-going research in process on the long-term impact of college education. Lastly, and most importantly, there are very few studies now under way about the immediate impact of the college experience itself.

There was a tremendous interest on the immediate past. What are these students like when they enter college? There is some interest in what happens to them in terms of the changes in their attitudes, but there is very little direct concern with the educational impact per se. What are the experiences that change attitudes? While this is a tremendously difficult area of research, while little is known about learning experiences generally, there seems to be a paucity of interest in the process of the impact itself.

Three major areas of research interest seemed to be relfected in the earlier papers. Using Newcomb's terms, which are quite useful, they are selection, peer influence, and tutelage. The order reflected the importance that Newcomb, and almost everybody else, assigned to them. Selection means that students are different on first coming to college and this reflects the probable, primary importance of antecedent factors. They are different when they come, they are different when they leave, and the major source of variance is the fact that they were different before the college ever got them. Heist and Webster made the point that effective general education, particularly education for value change, requires a greater understanding of these student characteristics. They mean an understanding which involves knowledge not only of the intellectual and achievement factors, but also of the motivational and affective factors which are inextricably confounded (to use their words) with the cognitive ones.

This is the central and crucially important theme which runs through Heist and Webster, Stern, and indeed, was the primary theme of a conference last year. The specific research results reported by Heist and Webster suggest at least two general syndromes of personality factors that are important in understanding college students--attitude development or maturity, and inhibition or control. Heist and Webster argued that the diversity in these personality characteristics, as well as the diversity in intellectual or cognitive factors, both within a given college and from college to college, are the most potent factors in determining the effectiveness of a general education. The fact that this diversity on any single campus tends to be ignored and because it is ignored from campus to campus accounts, in their judgment, for the failure of general education. An active awareness of the importance of these variables and their operation is seen as important for both faculty and educational administrators at all levels. Heist and Webster provocatively suggest that these test-defined factors have rather direct implications for both selective admissions and/or differential education.

Stern, in his paper, also argued for the importance of understanding those student personality factors which are associated with significant educational change, particularly educational change in the value area. He further pointed out the need to relate such student characteristics to various kinds of academic experience. Stern's argument was that there is a relationship between personality factors and the kinds of educational experience that produce an effect, and only by understanding these personality factors can we effectively plan successful educational experiences. It is noteworthy, incidentally, that the personality factors described by Stern are strikingly similar to those discussed by Heist and Webster, although the test instruments used by the two sets of investigators are not the same. One serious problem in both the comprehension and application of research in this area is the proliferation of psychological tests and scales for measuring student attitudes. A moratorium on the development of any additional tests might very well have a saluatory effect on institutional research with students.

Peer influence is the second area of concern that preoccupied the conference. Peer influences were seen by Newcomb as both more potent and more primary than faculty or administrative influences. These influences were the concern of both Trow and Newcomb. Trow identified four dominant student or peer subcultures on contemporary American campuses. Most students are immediately immersed upon entry into a college into one or more of these subcultures where the peer influences upon attitudes and values are especially potent. To reiterate Trow's classifications, there is the collegiate subculture, which is primarily fun seeking and nonintellectual. This "rah-rah" attitude toward college experience is typical of the large state university. The second, or vocational subculture, which seeks education as a means to an end--namely, upward social and economic mobility--and is typical of the large municipal community colleges. Trow identified, rather uniquely, two rather distinct vocational subcultures--the diploma seekers and the skill seekers. The academic subculture is a third subculture involving individuals who seek knowledge for its own sake and who have genuine intellectual interests. While this is typical of the small, elite liberal arts college, there are elements of this culture on practically all campuses, among the faculty, if nowhere else. The fourth subculture is the nonconformist subculture through which its members seek some kind of personal identity. While detached, rebellious, Bohemian students can probably be found on all campuses, they are more obvious hence more typical, in the larger, more complex institutions.

Newcomb pointed out the importance of the propinquity of peer groups and group member'saffection for each other (based on some common sharing of attitudes and values) as determining factors of the importance of the peer group. Newcomb's message was that researchers and educational administrators should now begin to seriously study the student peer group culture as an educational force. This powerful force has been neglected and now should be exploited by colleges to advance its educational objectives. As Newcomb pointed out, members of the group tend to reinforce their own biases, and the impact of a faculty is often out-weighed by the consensus of the group members.

The last area of concern is that of tutelage--differences in educational output which reflect differential formal educational experiences, excluding the peer group influence. Newcomb, in his paper, observed that education can only work where the peer group and tutelage reinforce each other's influence, which is why he feels the student culture has been a neglected resource in higher education.

Stern, in his paper, indicated that the failure of tutelage in the attainment of educational objectives, particularly in changing student values, is complexly determined. The attitudes and values that the student brings with him to the academic experience, the ineffectual teaching techniques, the inaccessibility of most faculty--particularly to undergraduates--and the gulf between "the learner and the learned" all contribute to the failure of education. Stern himself, however, provided some striking evidence that when such failures, such inadequacies, are considered and directly dealt with, a significant educational experience involving changes in attitudes can occur.

Knoell, in her exhaustive review of institutional research on the administrative problems of retention and withdrawal, pointed out that some breakthroughs in research can be seen. While she noted that the use of measures of attitudes, values, and beliefs are promising in the area of prediction of potential withdrawals, there is practically no research now being done on the remediation of the withdrawal problem.

Knoell made the observation that the solution to the problem of withdrawal will depend upon the particular institution and its avowed educational objectives. She suggested that within the explicit philosophic framework of any institution, a variety of research approaches may be used in a frontal attack on this problem of retention and withdrawal.

While the three areas of selection of students, peer group influences, and tutelage are each separate and important areas of research, the major problem appears to be the interactive relationships between these sources of variance. To be explicit, what kinds of students--selection--enter what kinds of subcultures--peer influences? What happens when the "wrong" kinds of students enter the subculture? Does the student change? What impact does it have on the subculture? What kinds of students change as a function of going to college? While these interactions between the factors of selection, peer group influence, and tutelage are both complex and difficult to study, they are the crucial ones to next be studied in understanding the impact of college on students. McConnell, in his introductory remarks, pointed out the importance of doing research with the faculty, administration, and staff. He stressed the necessity of having the faculty intimately involved in institutional research. The obvious extension of this point is to indicate the importance of doing research on the faculty, on the administration, and on the staff as they directly interact with the students.

Many, if not most, faculty people have little or no interest or concern with educational objectives, either with those of their particular institution or those of general education. They see themselves as narrow subject-matter specialists, concerned with their advancement of and in their respective academic disciplines. They seem far more interested in transmitting subject matter than in changing values and attitudes, and it is not surprising that student attitudes and values do not get changed.

Some faculty, however, are interested in changing values and are interested in educational objectives. How are the faculty who are interested in this problem different from the faculty who are not? What can we discover about these kinds of differences and the impact of these different kinds of faculty people on student values? Stern has given a very effective illustration of what one dedicated, courageous teacher can do in this respect, although his example is a clear demonstration of the interaction of tutelage and selection. Select the right students and give them the right faculty person and something apparently happens.

If there are differences in faculty--there are those who are interested and those who are not--what techniques can be developed to increase this sort of interest on the part of the faculty? This raises the rather interesting question of the influence of the faculty peer group in all of this. How does the faculty culture mix with the various student subcultures? It should be noted that there are almost no institutional rewards, with one or two exceptions, for faculty people who are interested in student attitudes and values and are willing to work toward changing them.

Heist and Webster pointed out that the majority of instructors behave as if students were essentially of one mold. While this is undoubtedly partly true, to what extent is it true? How can such attitudes be developed on the part of the faculty person? To what extent is it possible to develop faculty interest in the student body as a living, social-psychological organism? There are institutional research questions which are unanswered, yet uninvestigated.

The entire point of the Institute has been the focusing on a new frontier of research, the whole student. Each of the papers has emphasized in one way or the other the crucial importance of understanding students as complicated human beings, operating in equally complex social-psychological environments. While this point of view has saturated educational theory and educational research on the lower levels of education for decades, the notion that college students have inter-related attitudes, personalities, values, aptitudes, abilities--and that these in some measure determine the impact of a college education--seems to be a relatively new idea. Without gainsaying the importance of intellectual or cognitive factors, the importance of motivational and affective variables has been too often overlooked in both educational research and educational practices.

When compared to a macroscopic, longitudinal view of the college student, the scope of research to date is indeed narrow; conferences like this tend to broaden our sights. If we are looking down a funnel, we have stepped back a little bit with our funnel so we can see some of the precursors and some of the consequences of higher education a little bit more clearly. While our horizons certainly need even more broadening, the foregoing papers suggest that, indeed, they are broadening.

All of those who participated in the Institute would like to believe that their participation has generated some feeling of excitement about the shaping of this new frontier of research. It does not matter if some of the specifics of design and instrumentation of some of the reported studies seem obscure or complicated. What does matter is that these important student attitudes and values, cultures and subcultures can be studied and are being studied.

APPENDICES

A NOTE ON THE CASE STUDIES

Four institutions are described in the cases used at the Institute. They are:

(1) Rocky Mount University, a public university

(2) South Coast Junior College, a public two-year college

(3) Kingston College, a private liberal arts college

(4) Baker College, a public four-year college

These are imaginary institutions. Naturally, they resemble some actual colleges more than they do others, but that is unavoidable.

Each case contains four types of information:

(1) general data about the college; management, financing, location, programs, etc.

(2) more detailed data about students; enrollment, ability, attitudes, etc.

(3) some special institutional problems regarding students, which can be partially alleviated through research and data collection.

(4) questions regarding how research efforts at the colleges should proceed.

Each of four discussion groups discussed one of the four institutions. Each group was expected to consider itself responsible for determining what type of institutional research on students should be carried out at the college it was discussing.

APPENDIX A

-CASE STUDY-

ROCKY MOUNT UNIVERSITY
Public University

Discussion of this case was led by James Doi, Director of
Institutional Research, University of Colorado

Rocky Mount University is the largest of six public institutions of higher education in its state, and the second largest institution of higher learning in the Rocky Mountain region. It is located in a small town about 40 miles south of an urban center. Its relations with the local community are cordial. The community for many years has depended on the university for its commercial survival but is becoming more independent as various other types of service agencies are attracted there.

The university is controlled by a Board of Trustees, six men appointed by the governor for terms of six years. The university is financed through tuition and fees (25 per cent), state appropriations (70 per cent), and miscellaneous sources (5 per cent). The state in which it is located has a low tax base, since it contains large portions of government-owned land and has attracted relatively little industry.

Since the university opened its doors to 28 students in the year 1881, it has experienced a steady, and sometimes spectacular, growth. Until the great influx of World War II veterans, beginning in 1946, the rate of growth was fairly constant, whereas the period of 1946-50 was an unnatural one, occasioned by heavy veteran enrollments, reaching a peak in 1948 and falling off sharply thereafter. Following a three-year leveling period, an unexpected and sharp increase in enrollments began in the autumn of 1954 and has continued unabated to the present.

Enrollments at Rocky Mount University since 1920 are as follows:

1920 - 2,000
1940 - 2,800
1946 - 6,500
1948 - 7,800
1950 - 7,200

1952 - 6,700
1954 - 7,400
1956 - 8,900
1958 - 9,500
1960 -10,000

In the academic year 1959-60, its several colleges and schools conferred 1,800 degrees in 45 fields of knowledge. Total university personnel number approximately 2,500, including the equivalent of more than 520 full time faculty members. Education and general expenses for the year 1959-60 exceeded $9,000,000.

Non-Resident Student Enrollment

A special characteristic of Rocky Mount University, not common among state-supported institutions, is the high proportion of non-resident students in its student body. The fact that 37 per cent of presently enrolled students are from outside the home state, representing all 48 states and a number of foreign countries, gives a cosmopolitan flavor to the institutional environment. The administration considers this desirable from an educational viewpoint, feeling that it gives an added stature to the university; it also presents a challenge to the faculty and the administrative officers to take full educational advantage of this condition. Since many more applications for admissions will be received in the future than are approved, and considering that the university has no particular obligation to accept these students, the flow can be controlled and channeled to foster a balanced growth and development of the university. Non-resident tuition and fees are currently at a relatively low point, $350 per year, and have been going up about five per cent each year.

For reasons unknown to the administration, heavily disproportionate groups of students apply to the university from the urban centers of Chicago and San Francisco. Part of the reason for this is thought to be the influence of heavy enrollments of war-time students from these areas, and the influence of these persons on new students. Of the resident students, approximately 50 per cent are from the state's largest urban center 40 miles to the north. Students from Stoneham, the community in which the university is located, account for an additional 15 per cent of the residents.

The total student body is made up of approximately 30 per cent women and 70 per cent men. About 20 per cent of the students are married. Enrollment in the university's graduate programs has increased during the past five years, and at present makes up 15 per cent of the total. It is expected that, barring certain administrative decisions, the enrollment in the graduate programs will increase by about 150 per cent during the next decade. Heaviest enrollment is in the College of Arts and Sciences. The Schools of Engineering, Business, and Education account for the next heaviest enrollments.

The university has little need for a recruitment procedure. However, through attractive brochures and announcements, it indirectly seeks to advertise the natural advantages of its location and programs. A sizeable admissions office handles the large number of admission requests from out of the state, and keeps regular tallies of the number of requests from various states, the proportions of students enrolled from the home state compared to non-residents, etc. The admissions office has been requiring applicants to take College Board tests for the last three years. These have not been used as a basis for selection of students, but will provide the university with data which they may seek to use at a later time. Up to the last five years, the university accepted high school graduates in the upper 50 per cent of their class from out of state. In the last two years they have selected about 75 per cent of the total applying group, on the basis of high school grades, class standing, and letters of recommendation.

Admissions in the future will be partly guided by the number of home state students applying for admission; the Board of Trustees of the university is studying the question of continuing the policy that graduates of the state's high schools will be accepted to Rocky Mount University on the basis of graduation alone. Therefore, as this group increases, the Board has suggested that the university control its total growth by selecting from the out-of-state students that number which, in addition to the home state students applying, will make for a total enrollment which they desire. The admissions office, therefore, is studying the several possible techniques it can use to select the most desirable out-of-state students.

Informal Student Activities

Fraternities and sororities at Rocky Mount University represent the major focus for organized student activities. Membership in student government and leadership in almost all student affairs is dominated by members of Greek organizations. Popular extracurricular activities are skiing, participation at university meets and games, weekending in the urban center to the north, picnicing in the nearby mountains, and drinking and dancing at bars and dance halls. Activities on the campus which involve the largest numbers of students are mainly "spectator" events: student government elections, student talent reviews, a foreign film series, a regular series of lecturers on campus, appearances of musicians, and three separate "weeks" devoted, respectively, to American Politics, Religion in Today's World, and International Relations.

Drop-outs, student image, etc.

The university suffers a rather heavy drop-out of students after the sophomore year. It is thought that this may be due to withdrawal of many non-resident women who seek only a two year "finishing school" education, and possibly also to the departure of some resident students accepted on the basis of high school graduation, who cannot meet the academic requirements of the university. Transfers from other institutions at the junior year make up for about one-third of the total number of students dropping out after two years at the university. The transfers are primarily non-resident students, thought to be from locations similar, in general, to those from which the drop-out students came.

There is a general acceptance among the College of Arts and Science faculty that non-resident students see the university as a "country club," and attend it largely because of its nearness to other pursuits which they seek, almost all of which are extracurricular. The administration conducted interviews with a sample of students about four years ago, seeking to findout their interpretations of the university's special qualities; the "country club" attitude was only partly substantiated. Several other factors, including academic vocational, and circumstantial, seemed to be playing a part in the students' choice in this institution. It is not known how many students dropping out transfer to other institutions or cease their education entirely. In general, the resident students show an aptitude level about 10 per cent lower than students entering Rocky Mount University from other states. Further, the number of home state students who are of exceptional ability is considerably smaller than that group from out of state. It is thought by the administrative officials that many high quality in-state students attend Eastern institutions of higher prestige.

Problems

1. Rocky Mount University has sought rather large increases in funds from the state during each recent bi-ennium. It has based its requests largely in terms of (1) increased costs of maintaining its level of operation; (2) the gradual increase in graduate programs (inherently a more expensive endeavor); (3) increases being given to other state institutions; and (4) enrollment projections.

Among other things, the appropriations committee of the state legislature has noted (a) the high proportion of non-resident students enrolled at the university; (b) the net loss to the state of the difference between out-of-state tuition and costs of educating a student; (c) the rather serious drop-out at the end of the sophomore year; (d) the rather limited criteria of selection used in securing out-of-state students. The committee has asked the university to make its case for having the large out-of-state enrollment, and has asked that the university present alternative selection systems, based on research into the predictive value of various criteria of selection.

President Garland turned this problem over to Vice President Stainton. "Veep" has appointed a committee and charged them with investigating these matters:

(1) the arguments for and against having a "cosmopolitan" student body; a definition of when a student body becomes "cosmopolitan" in terms of the number of non-resident students

(2) the probable reasons for withdrawal of students at the end of the sophomore year

(3) the relation of these two factors to the university's selection system, and what changes might seem necessary in the future.

2. While the dean of men's office has not been plagued with extravagant student misbehavior during the years, neither have they felt particularly satisfied with the extracurricular activities which dominate the students' unscheduled life. Attendance at university functions of artistic, intellectual, or academic value tends to be low, while sports events, and university "fun" events receive a great deal of attention.

A faculty committee on student activities has suggested that students' use of leisure time reflects the essentially non- or even anti-intellectual attitude which dominates the campus. They have recommended that the student personnel office conduct an opinion study to determine students' attitudes and values about learning and the use of leisure time.

The committee was spurred on in its discussions by an article appearing recently in New Nation magazine in which an Amherst dean rated the country's colleges, Rocky Mount was placed in Category C-2, "undistinguished program with mediocre student body."

The committee, led by Psychology Professor Blunt, asked that the survey seek answers to these questions:

(1) What special characteristics, intellectual and other, do students attribute to Rocky Mount?

(2) What is their evaluation of Rocky Mount five years after leaving?

(3) What intellectual activities have the greatest impact during four years at Rocky Mount?

(4) What intellectual pursuits do students feel could comfortably be built into their leisure time?

(The dean of students has expressed his attitude that students entering the university in the last five years have shown a surprising increase in intellectual interest. He has suggested that the students merely are opposed to organized intellectual activities, and that "they learn as much over their beers as they do in classes.")

3. The Board of Trustees, at its last meeting, issued a resolution to President Garland expressing deep regret at the recent adverse publicity given the university in the press of the state's biggest urban center. The publicity referred to described the university as "a virtual country club, which attracts beatniks, play boys, bohemians, and rich kids, and then, over four years confirms their image of the university as a party school, where the gentleman's "C" can be achieved with one night's study per week." President Garland, responding to the resolution, told them that the bad publicity in the press came from an editorial staff biased in favor of the state's land grant college. However, he added that "we ought to get to know more about what our students think of the university and why they come here." The Board of Trustees concurred in that opinion.

On his way home from the Board meeting, President Garland wearily opened his portable dictator and dictated a memo to Dean (of students) Ash:

> Jack:
>
> We need information on (1) the students' view of Rocky Mount and their reasons for attending here; (2) the kind of students we attract, personality-wise; (3) the study habits of students as related to their accomplishments. These are touch things to get at. Would you and Fred Ratner in the Research Bureau talk this over in terms of a study proposal? Clear your calendar for 10:00 a.m. Monday to review the proposal with me.
>
> (signed) Harlan

-RESEARCH REPORT-

ROCKY MOUNT UNIVERSITY

This report was given by Arthur Grant, Associate Registrar,
University of Arizona

If you'll grant that it is perfectly possible for different students to get totally different impressions of the same institution after four years, you can also allow, should my discussion group rise in a body against me here and say, like Elliott's J. Alfred Prufrock, "That's not what we meant at all," that I received a completely different impression of the discussions we had today. At any rate, you are going to hear my impression of it.

Rocky Mount University has some real problems; some of the people at Rocky Mount have real problems too, judging from President Garland's demands that he get some answers by 10:00 the next morning. We decided to leave the problems of the short-range nature to the registrar, the dean of students and the admission officer at Rocky Mount and to concentrate rather on the long-range approach to the basic problems of the school.

You may remember that Rocky Mount University, hereinafter referred to as RMU, has problems from three general sources. (1) It is being criticized strongly by its legislators for maintaining too large an out-of-state enrollment, and for its high drop-out rate. (2) Its faculty and administration feel that the sunny academic climate at RMU is being clouded by the exhausts of too many student automobiles going to too-many extra-curricular activities. They feel, too, that the smoke rising from the pre-football game bonfires is clouding the atmosphere. In short, the school is fast becoming collegiate-oriented rather than academically-oriented. (3) Intensifying these matters, the local press thinks the same way. They charge that RMU is a party school where a "gentleman's C" average is easily obtained by one-night's study a week.

These are the problems facing the faculty and administration of RMU. It seems to us that a critical self-analysis of RMU is necessary, and to do this effectively we propose that the institution decide three basic questions. (1) What kind of a school do the faculty and administration want at RMU? In other words, what are the objectives of that institution? (2) What kind of a school is RMU in actuality? And (3) What kind of a school does the public think RMU is?

To answer these questions, a great deal of self-assessment is evidently necessary: (1) The student body should be analyzed in terms of ability and by the geographical origins of different ability groups. (2) A value study should be made of the students, the faculty, the administration, and the community, to help assess what type of an institution RMU is in actuality. (3) It is suggested that studies be made of the institution's budget and space allocations and that the housing program at the school be analyzed with respect to the academic climate that is desired at RMU. (4) A study of the extracurricular program is necessary to better define and understand this aspect of the campus life. (5) The implications and effects of the school's admission policies should be examined carefully with a possible re-evaluation of these policies in mind. (6) The academic standards, the grading system, and the level of student achievement should be carefully inspected. (7) A follow-up of the alumni of the institution may reveal something of their impressions of the school and some measure of the worth of the institution in terms of the success of this particular group. Finally, an analysis of the university's total resources would help determine something of the nature of the school. In this regard it is suggested that an analysis of the time allocated by the faculty and the students to various activities and enterprises be carried out.

There were other suggestions, but the time didn't permit my getting them all down in this particular report. (One I remember offhand, was a suggestion to fire the dean of students.)

To implement these studies that were proposed, it is felt that a full-time member of the faculty will be required to coordinate the studies and to work out a long-range plan for continuing studies that will bear upon the problems at hand. As a final note, it is recommended that an effort be made to determine how the total resources of a potentially excellent state university might be combined and integrated to produce the best climate for the intellectual growth of the students and the dissemination of knowledge to them.

APPENDIX A

-CASE STUDY-

SOUTH COAST JUNIOR COLLEGE
Public Two-Year College

Discussion of this case was led by Hugh Price, Chief,
Bureau of Junior College Education, California

South Coast Junior College recently received its report of the survey team representing the commission for Accrediting Junior Colleges of the Western College Association. Careful reading of the report would lead one to suspect that all was not well on this beautiful campus. The report released five years earlier sounded so very different than the one drafted by the present survey team. In 1955, the college received a maximum accreditation of five years; the current accreditation has been granted for a period of three years.

A complete review of the accrediting report reveals a number of problems and results in a variety of questions. What has happened in this ideal setting in the Palo Verde Hills to cause an apparently well-administered public junior college to become the center of contention and strife? Why is it not growing? Why is there uncertainty regarding its future, with extensive suburban development mushrooming around it, with a new north-south freeway to San Diego not too far away to pour students into its classrooms? Why is this institution and setting not attracting students as once anticipated?

The institution should be looked at more specifically--its organization, financing, campus, faculty, program, pbulic relations, activities, and general current status,--to see what its problems are. South Coast Junior College is one of California's total of 63 public junior colleges. It is one of 32 which are administered by a five-man (four men and a woman in this case) board of trustees representing an independent junior college district. The district includes two high school districts: Dos Palos Hills and South Sequoia Heights. The district has an assessed valuation of $235,050,000 and had a average daily attendance of 846 in 1958-59 ($277,836 of assessed valuation per unit of average daily attendance). It is, of course, a basic aid district.

While growth in the area is essentially residential, and businesses in the community are almost entirely of a commerical service type, the increase in assessed valuation will be steady for several years; at the same time the average daily attendance for the college should steadily increase from 1962 on as the war babies reach the 13th grade.

The college is one of the older junior colleges, having been in operation for about 27 years. During much of this time it has had an excellent reputation for a strong lower division program. For many years the grade point differential of its graduates who transferred to the University of California, Los Angeles, has remained approximately at a negative 0.25, which is below the differential for all other junior colleges in the area and well below the state average of -.56.

The South Coast Junior College campus of 55 acres is beautifully landscaped; its buildings which are of Spanish mission style architecture are well maintained but not modern in functional application or utilization. President Santer has never found it necessary to hire a business manager; instead he employs a highly competent account-clerk to manage the business functions. He personally supervises the maintenance and custodial services through a head custodian and a staff consisting of a carpenter-general mechanic, a painter, three gardeners, and five custodians. As specialized plumbing and electrical services were needed, they were secured from local agencies. Community citizens have always expressed praise for the appearance of the college.

The faculty of the college has been carefully chosen, and the accrediting team judges them well qualified to do the job assigned. There is a faculty-student ratio of one teacher to 19.5 students, which is considered quite adequate. Fifteen per cent of the teachers have Ph.D. degrees and all other teachers have at least the M.A. degree or its equivalent. The turnover in the faculty is very low; new teachers have been employed largely to replace teachers who have been retired at the mandatory age of 65. In spite of the high quality and permanence of the staff, there has been increasing tension between faculty on the one hand and the administration and governing board on the other. Primary cause of the tension has been the faculty's demand for a "five-year plan" which would define the kind of college which South Coast can expect to become.

The program of the college has been generally static with emphasis on transfer training. Probably mathematics, science, and engineering have received greatest emphasis in the offerings of the college, perhaps a function of the personal interest of President Santer, who is himself a graduate engineer. A well-diversified program in the other academic disciplines is available. Graduates, in addition to transferring to U.C.L.A., also go to Long Beach State College, Los Angeles State College, University of Southern California, California Institute of Technology, the Claremont Colleges, and the University of California, Santa Barbara.

It is generally conceded that graduates of the two local high schools rank institutions for their own collegiate institutional experience in the following order: an Ivy League college; University of California, Los Angeles or Santa Barbara; University of Southern California; a state college; and, finally, South Coast Junior College. The good reputation of the junior college, however, and the success of its graduates are indicative of a rather excellent student body; many capable students enroll here even though other institutions might be preferred.

Only limited attention has been given to a program of terminal-technical-vocational curriculums. No survey of community needs for technically trained young people has been made, nor has a study been made of the interests of high school graduates in vocational training. Little or no effort has been given to follow up on students who leave the college either before or after graduation. Causes of drop-out are not known.

Courses of a terminal nature now include training in such business courses as typing, secretarial training, bookkeeping, and business machines. Two-year technical programs both in surveying and drafting and for engineering aides are offered. The Engineering Council for Professional Development has accredited these as well as the two-year pre-engineering transfer program. No work is offered in trade and industrial training in either day or evening classes except boat building. The adult education program is limited to fine arts and crafts. No graded courses are offered at night.

No effort has been made by the college to carry on any extensive recruitment program for students from the two local high schools. Neither has any use been made of early testing and guidance for prospective entrants. As yet no advantage has been taken of Education Code provisions which permit the enrollment of superior high school seniors for part-time college loads.

There are three adjacent high schools located in non-junior college territory from which many junior college students could be enrolled with resultant increases in operating and capital income. Little has been done to promote this, or to assist in developing strong local community support. No citizens advisory committees have ever been used.

While a limited program of student activities has been fostered by the college through the service of the Dean of Men and the Dean of Women and the Associated Student Body, little cooperation is given by the faculty in sponsoring student activities and in chaperoning social affairs.

Problems

(1) The latest Western College Association accreditation team criticized the institution for the lack of an adequate campus center and adequate food services. It was recommended that: "Immediate attention should be given to the development of a suitable campus center which would include a coffee shop or snack bar, a cafeteria and dining room, lounge facilities for students and faculty, a book store, a health center, and the headquarters of the Associated Students which would include a meeting room, bookkeeper and cashier's office, and necessary storage area for student body supplies."

(2) Guidance services for the college students are almost limited to the academic and scheduling advice given by the faculty "advisors" at the time of registration on the day immediately preceding the opening of classes in the fall and spring. Guidance, as well as academic supervision, is the responsibility of Vice President Gillespie. A Dean of Men and a Dean of Women assist in counseling activities, but personal counseling is limited. There is no formal orientation program or class for new students. Vice President Gillespie is also responsible for the preparation of the class schedule and for the assignment of teachers.

No formal placement services are provided by the college, a definite lack which was also pointed out by the accreditation team.

(3) Because President Santer will retire within two months and a new superintendent-president is to take over in the fall of 1960, it is important that the faculty, the administrative staff, and the board consider the kinds of data which will be needed to assist in making decisions for policy development and long-term fiscal and program planning. Improvement in internal communications and organization must come about also. Long-term planning for site development must be done in terms of projected enrollment, anticipated curricular offerings, financial ability, and possible changes in district boundaries.

Special consideration must be given to data on students which the college needs. For example, these are some questions which President Santer outlined recently in a memorandum to his successor:

(a) From what sources can South Coast expect to recruit students in the next ten years? What effect will the new state college and new university campus have on recruitment problems?

(b) What portion of potential students would seek a terminal-technical-occupational curriculum if such were expanded? What portion of students attending the three nearby high schools could be recruited to South Coast? What type of curricula would they prefer? What are the district's needs for specialists who could be trained in two-year terminal programs?

(c) What becomes of South Coast graduates? How does their education fit them for what they do upon leaving? What aspects of the curriculum, the "college life," and the physical plant would they have preferred to be different? Who drops out? Why?

(d) Why do students choose South Coast? What "character" does the college have in the eyes of entering students and their parents? Is this confirmed after two years?

(e) How could the informal life of the college be made more conducive to quality education?

(4) An "irate group of citizens" (Dos Palos Sentinel) visited the office of President Santer last week. They were irate about "their joint belief that the junior college was coddling students who had no right in college classes." President Santer explained calmly that South Coast must accept all students who, it is felt, can benefit from the time spent there and that the "rights" of these students are as valid as those for any other group.

The citizens, led by Alfred Bunt, Dos Palos businessman, demanded that President Santer describe in a public forum the steps that South Coast should take to ensure that good students are kept "flowing into the doors of our alma mater in a constant stream, while opportunity is also held out to those of whom only a small portion may graduate." President Santer agreed to do this.

He feels his remarks should be bolstered by research and data collection at the college that will make such a plan most fruitful.

(5) The South Coast faculty, through a committee appointed last year, has recommended that an Honors Program be instituted for students who: (a) are in the upper 1/5 of their class; (b) are declared transfer students; (c) can spend two two-hour evening sessions per week in Honors Classes.

The faculty feels the Honors Program would be beneficial to them as well as the students, as indicated in the remark of Dr. Bill Shaker of the English Department that he "makes only occasional and passing reference to some of the best writing in English literature because we just don't have enough students to fill up an interested section."

President Santer talked with the faculty committee about the Honors Program. He expressed the view that not enough was known about the motivation and interests of South Coast students to justify initiation of an Honors Program at this time. The committee asked that President Santer outline just what data must be known before a decision could be made. The President turned the problem over to Vice President Gillespie.

-RESEARCH REPORT-

SOUTH COAST JUNIOR COLLEGE

This report was given by A. H. Chatburn, Dean of the Faculty
Boise Junior College

As you recall, South Coast Junior College is located in a wealthy residential area close to Los Angeles. South Coast has been in operation for some 26 years; during that time, it has achieved an enviable reputation through the success of its transfer students at U.C.L.A. It is heavily oriented toward the transfer program and has a limited vocational-technical offering.

The man who has guided the destiny of South Coast for many years is retiring in two months. His successor, Dr. Strongheart, has had considerable experience in junior college administration. The Board of Trustees and the faculty both feel that Dr. Strongheart has an entirely different philosophy of administration than did his "stereopathic" predecessor who ran a one-man show.

Now, the question arises in the minds of the faculty and the Board of Trustees of South Coast: What can we do to change the direction of South Coast, to make our institution more meaningful for its students?

As has been pointed out repeatedly in this conference, any decisions based upon inadequate data are a form of quackery. Those of us who are associated with South Coast are going to try to proceed in a rather deliberate fashion to collect certain data. We want to launch some long-range planning. I might say that our Board has looked rather favorably upon this proposition and has authorized expenditure of sufficient funds to employ the necessary clerical assistance; and we hope to be able to get a highly competent consultant to join us in our deliberations.

Now, as we grappled with the problems, each member of the group assumed a role. We had a member of the Board of Trustees; we had a money-conscious lay citizen; the vice president of South Coast was in attendance--a man who had been given many responsibilities by President Santer; the dean of students, newly appointed, sat in with us; and we had represented faculty members who were, shall we say ive-league oriented, who wanted the junior college to become a "little Princeton"; and we had represented the vocationally-oriented faculty member who favored a comprehensive type of junior college.

What were some of the kinds of data which we feel need to be gathered in order to facilitate this long-range planning? First of all, we feel that we need to know more about the occupational characteristics and needs of the people residing in the area embraced by these five districts, the two which are presently a part of the junior college and the three which may be annexed. Also, because this is a residential community adjacent to Los Angeles, we need to know something about the needs of the people in the metropolitan area. A pretty big order. We hope to get help on this from the Industry Education Advisory Committee, and we confidently look to the State Department of Education to assist us, particularly the Trade and Industries Branch. We hope to get invaluable assistance from various advisory committees to be appointed by the Board of Trustees on the recommendation of our new president.

Second, we hope to study rather carefully the advisability of annexing the three districts which presently are not members of our junior college district. We will go into this, keeping in mind that we have a moral obligation to provide a diversified curricular offering for all the young people in the South Coast area. I might say that our Board is at least tentatively committed to providing a comprehensive type of junior college education, notwithstanding the fact that in the past our offerings have been pretty largely oriented toward the transfer, university-parallel curriculum.

A third type of information which we need to get pertain to the students in the five nearby high schools. We hope to study the juniors and seniors presently enrolled in these high schools, and we would like to study the members of the two previous graduating classes--Where do they go? How many of them accepted employment immediately following graduation from high school? To what kinds of higher institutions of learning did they transfer? What kinds of courses did they take? What do they need in the way of further higher education? We are sure that we will be able to get whole-hearted cooperation from the local high school administrators. We want to work with them very carefully in launching this study of the students; in many cases we recognize that some of the high schools have already made these studies and that a good deal of the information is readily available.

Fourth, we want to study the needs for adult education in the area served by South Coast. We want to know what kind of extended day programs are needed, what kinds of courses these people would like to take, and so forth.

A fifth aspect of our data collection will concern a follow-up study of our present students: What happens to them? How many of them continue in higher education? How many accept employment immediately following graduation from South Coast? Upon completing one semester? One year? We want to study the drop-outs rather carefully to determine if we are not meeting the needs of certain students. In studying these drop-outs, we will assume that for some students--fortunately, we feel, a rather small minority--further attendance at college may be of little value. But since we are dedicated to the "open door college" concept, we feel that we should have some course offering from which any student should be able to benefit.

Sixth, we want to collect as much data as possible to see whether the construction of a campus center will assist students' acquisition of certain intellectual and social values that we have been talking about during these last three days. In gathering data in this area, we will ask students their views as to whether a center is advisable; if the answer is in the affirmative the students will help us plan the center.

Seventh, we want to know something about our own faculty. We want to know in what ways the faculty disagrees with the Board and the administration relative to the philosophy of the college. We suspect that certain of our faculty members are oriented too heavily toward the university-parallel transfer curriculum. We hope to use the College Characteristics Index tool. In addition to studying the faculty, we want to find out more about the attitudes of the students: How do they regard the present program of South Coast? What would they regard as desirable changes? We want to gather information about ways and means of strengthening our counseling program. We hope to study counseling programs of some of our neighboring schools; we want to try to uncover information about the roles of the various functionaries in a good, on-going guidance program: What does the dean of students do? Where do the faculty members fit into a good counseling program?

And our final recommendation to Dr. Strongheart is that we feel that at this very crucial period in our history someone should be appointed to work with the Vice President to coordinate these various studies. Most of our faculty members are already burdened with teaching loads of 15 - 18 semester hours, so we hope either to reduce the load of some faculty member whom we presently have or to bring in someone from the outside to coordinate these studies to help us with the long-range planning.

APPENDIX A

-CASE STUDY-

BAKER COLLEGE
Public Four-Year College

Discussion of this case was led by Clarence Bagley,
Coordinator of Research and Testing, Washington State University

Baker College is a public four-year college located in an industrial city of 125,000 people. Surrounding Baker City is a rural farming area with many small (1,000-2,000 population) towns which depend heavily upon dairy and truck garden products.

Baker College was founded in 1926 when the city school board agreed to assume management of a church-related college which was about to close, due to financial difficulty. The aim at the time of the merger was to retain the liberal arts program of the church-affiliated school and to promote a more "applied" curriculum for the city's student and adult population. The applied curriculum envisioned by the founding board included a professional business sequence, teaching and education, technician and technology courses, and general education courses.

After World War II three significant factors contributed to the establishment of Baker College as a college in its own right: (1) the increased use of the facilities by the community and the veterans, followed by the upsurge in enrollment; (2) a private endowment fund given to the college which specified that periodic grants be used for physical facilities while a continuing yearly amount be used equally for operations and facilities; (3) the establishment of the office of college president, responsible only to a board selected by the city school board, and the endowment commission. (This board is designated as the Board of Trustees and is composed of seven members of varying terms of office. The city school board selects three members.)

These changes occurred in the 1949-1950 school year, and Baker College was moved to its present site on the outskirts of Baker City. The campus is composed of 220 acres with buildings, all new since 1950, and facilities designed to handle 2,500 students. There are additional facilities to handle evening and adult education classes.

The new president, Dr. Leonard Brighton, was given authority to modify and increase the curriculum for both adult education and terminal two-year programs, and for a strong four-year college curriculum. The present administrative policy is toward fulfillment of both responsibilities in theory, but the building of a strong academic faculty is given strongest emphasis.

President Brighton is in direct control of the college, serving under and reporting to the board of trustees. Directors and deans report directly to the president. There are the schools of Business, Technology, Education, Arts and Sciences, Adult and Continuing Education; President Brighton is assisted by a dean of students, registrar, and business manager. He likes the present organizational plan and feels the college is small enough to merit no intermediate offices.

The registrar, Martyn Wotkyns, maintains all student files, grade cards and admission data. His position has been to get the job done and not wonder about past or future trends or summarized reports. Presently, his staff prepares statistical summaries of the student population at Baker College, but the reports are generally filed away and never used. Little has been done in determining trends in student population and criteria of evaluation of grades.

The office of the registrar does not determine admissions policy. A faculty committee of three members works with President Brighton on this. The registrar does not feel responsible, therefore, for much more than maintenance of student records. All applications for admissions and reinstatement are handled by the admissions committee.

There is some talk of placing a research person in the office of the registrar and admissions director. President Brighton has been somewhat hesitant to do this, but the decision must be made soon. The present registrar feels he is not the person for the job and would like to relinquish his responsibility with all student records.

All personnel services are under the dean of students and include the counseling and testing center, placement center, health referral service, housing service, student government and organizations, and student loans and scholarships.

Al Pope, the dean of students, does not plan on enlarging housing facilities at the present time but would like to provide some means of increasing the students' activity on the campus. He is quite eager to build Baker College into a residential college. He himself is asked to meet more civic responsibilities and functions with the adult and evening groups than with the "regular student group." The dean wonders to himself whether his staff should obligate themselves to such a time-consuming responsibility.

Baker College has a definite interest in testing, counseling, and placement of its students and cooperates with city and state agencies. Every student who has enrolled at Baker College can take advantage of these services. The result has been a heavy yearly increase in service by the counseling and placement center. Both centers feel they are too busy to do many follow-up or evaluation studies.

The counseling and testing center handles a large number of student cases each year with a fairly comprehensive gathering of data on each student. Students' grades and biographical data are included, as well as test and counseling data. These files are maintained for four or five years and then disposed of because of lack of space. The director of the counseling center has four staff members and a psychometrist working under him. All have very heavy case loads and at present spend little time doing active research. They feel they should do research, but the increasing service function fills their working day. The one continuing study they do maintain accurately is a measure of their increasing case load.

One study completed recently compared the entering 1957 freshmen test scores with those of 1952 entering freshmen and found significant gains by the 1957 group. This study was widely advertised as showing the increasing academic caliber of students now entering Baker College. Two college ability tests were used for comparison purposes.

The area of student organizations and government has been a source of difficulty to those in Dean Pope's office who would like a stronger program. Many of the organizations and activities are oriented to civic events, and relatively few to college events. One of the most active organizations on campus is the drama and theatre group, organized specifically for civic presentations. The students of Baker College have been categorized as "apathetic" by some members of the faculty and administration because of their lack of activity on campus. However, the students feel too busy with studies, jobs, and commuting to return to the campus for evening activities. There is no resident captive audience, then, for providing student activities on a large scale basis, yet those students who do participate in certain activities are very dedicated to their work.

Within the last two years at Baker College some attempts have been made to assess the number of students who were dropped or withdrew from the college's degree program. The various schools within the college have done fragmentary studies of their own students in attempts to determine why students left Baker College; the most common explanation has been academic deficiency. The technology school has maintained contact with many of its graduated members in attempting to assess changes in employment practices.

Enrollment at Baker College shows a rapid gain in the last ten years:

	Degree Students*	Non-Degree Students**
1930	400	740
1940	765	1280
1950	1200	2000
1953	1500	2600
1956	1800	2650
1959	2000	2900

*A student enrolled in a two-year or four-year school awarding a degree.

**A student attending a class or classes but who has not enrolled in a two-year or four-year school awarding a degree.

Presently anticipated expansion of the two-year and four-year degree courses will raise these figures as will the full accreditation at other universities of the first two years of college work at Baker College. Many of the faculty are urging a full liberal arts curriculum for professional school preparation at other graduate schools.

For adult and evening courses, admission is by payment of a small fee. Entrance to the two-year and four-year degree curricula is by high school diploma, and recommendation of high school principal; special testing is available for those not thus qualified but desiring admittance. Many exceptions have been made, and they have become almost the rule. A standard practice within the state educational circles is referral of a student to Baker College if he cannot gain admission anywhere else. One recurring problem concerns admittance of those with high aspirations and low ability. The college is faced with admittance of several unemployed workers who want a better education for better employment. Should Baker College seek to rehabilitate these persons while striving to maintain the academic standards of other progressive colleges?

Many of the faculty who teach in the regular academic four-year curriculum favor raising standards to compete with other colleges or the two-year preparation established by the state university. They feel they must continue to enforce higher standards or be lost in a junior college status. A contrary viewpoint is expressed by those who teach in the technical courses or adult education courses: they want to emphasize service for the community.

The presence of a junior division of the state university in Baker City has caused growing concern recently. The initial establishment of the first two years of university work at Baker City was felt to be no threat since local students would have gone elsewhere anyway. Now that Baker College is striving to improve its academic status, its college administration and faculty feel the two-year university draws off the best students from Baker City high schools. One means of dealing with this situation has been to accredit the first two years of Baker College at the different universities and professional schools in the state.

The future plans for Baker College include an expansion of the present degree-granting schools. The president feels the college must grow in this area to attract faculty members of good quality. The college, while meeting the needs of the community in continuing education, must develop its academic potential for a good undergraduate education. There are no immediate plans for graduate work since the president feels the college must first strengthen the present offerings.

Several of Baker College's graduates have made significant names for themselves and are used frequently to credit the college name. One man, Benjamin Krump, graduated in business and went on to become a corporation president. He has been asked to contribute to several building funds and serve on the board of trustees but stated he was too busy at the present time. His career has been followed more closely than the majority of other graduates.

Problems

One problem faced by Baker College is the present endowment fund. Baker College is in the unique situation of having almost too much money. One effect for the administration has been to promote a rapid expansion of enrollment during the last ten years and to plan still more rapid expansion in the next five years. The expansion has resulted in a vacuum of information about students at Baker College.

The rapid growth of the different schools, particularly Education and Technology, has made each director and dean an empire builder. Each feels his specialty should advance in facilities and student numbers; each ignores the trees for the forest.

Institutional research on students suffers from a general lack of direction. The few individual efforts remain uncoordinated and unknown to others, for the most part. The heavy service function provided by those in charge of records and data, i.e., Martyn Wotkyns, the registrar, and George Roberts in the counseling center, prevent them from pausing long enough to look around and evaluate themselves and the college.

The recent emphasis on increasing the academic level of Baker College has given rise to the question of changing the grading system. Some faculty members are thinking of increasing the percentage of D and F grades or limiting A grades to 5 per cent of the class population. Various grading systems are currently in operation among the faculty, and there is general agreement to make the curriculum tougher in the future, to drop out the lower 20 per cent who are obviously just getting by. How can this be done at the same time enrollment is increased?

Admission standards merit some of the faculty's attention. Again, the general feeling is to raise admissions standards. But for which groups of students? By what criteria? At the present time the college cannot raise the standards of its curriculum if everyone is to be accepted into the college.

One very immediate problem to students at Baker College is the determination of their educational and vocational goals. Until recently, most students did not make use of the counseling or placement centers. There seemed no way to gather information for a comprehensive picture of vocational or educational information. The situation is improving with a new program of freshmen advisors, but there remain a number of administrative and cooperative problems.

The staff under the dean of students, Al Pope, feel they should be doing some active research on students. They have had several meetings on the problem but always concluded that they lacked effective measuring instruments and criteria of evaluation. They felt that the first study they attempted should be effective lest the staff suffer a loss of prestige within the college.

The counseling and testing center must reduce their case load and define more definitely the type of student they should accept. The staff is aware that the heavy service load is reducing effective research and evaluation. The director would like to limit their interest to those now in school and working toward a degree. Perhaps one staff member might be assigned to work with part-time students.

What means can be used to increase student activity on the campus, both in curricular affairs and extra-curricular activities? What level or degree of participation is to be used as a criterion, and how does one measure activities?

-RESEARCH REPORT-

BAKER COLLEGE

This report was given by Clarence Bagley,
Coordinator of Research and Testing,
Washington State University

I had told the committee before I left that if their perception differed from mine, they could write me a letter afterwards. I am hoping they will not. We discussed what we can do now in terms of research and then later on that will help Baker College to assess what they have. Some of the research needs have been covered previously by other speakers. I'll play these down and elaborate only on the ones that I think pertain particularly to Baker College.

The committee recommended a look at the administration of the college to determine what help is needed there. It was brought out that Baker College seems to lack administrative policy and administrative staff to carry out some functions. Who handles the evening college? Who acts as dean of faculty? Are these two positions separated? Are they coordinated? Do they report to the president or should they have someone in between to report to? Can the president, along with other responsibilities, handle the academic as well as administrative problems coming to him? Should he have a director of evening college? A dean of academic instruction? These are some of the questions we asked.

Another question we felt needed an answer is: What is or should be the function of Baker College? The college was originally designed to serve the vocational training needs of the people of the city and also to retain its role as a four-year liberal arts college. The committee recommends that perhaps these two should be separated on the campus. How far they should be separated is a further debatable point. There was a California element within the committee which favored distinct separation. There were others that felt we could keep both within the same campus with separate staffs. If there is a differential admission program, then perhaps we need to go a little further in the separation of the two. The function of the college was discussed in terms of what is the future of Baker College? Should we increase our efforts toward building up a four-year liberal arts curriculum or should we emphasize the two-year?

The next matter we discussed was the record system. As described in the case study, the record system was in a state of chaos. Our recommendation is that Baker College study the feasibility of going to IBM, and of hiring a person to coordinate the work in the registrar's office in order that the college can have available data about its students.

We feel there should be a follow-up study of the alumni done with a citizens'committee from the surrounding area which could inform the administration of citizens' perceptions of the college. Also, the present student body should be studied; student characteristics should be measured and evaluated.

(At first there was some movement in our group towards firing the president; this lost ground when it was noted that he brings in a lot of money. Why fire the president at this particular time? I think we will retain him for at least another year. The registrar was given a verbal pat on the back and returned to the rear office to work on his records. The present board of trustees, since they are quite influential on the money angle, were also retained with our blessing.)

There is other research to be done: exit interviews, a study of student drop-outs, predictions in terms of counseling and guidance, and grading standards. Admissions standards were also discussed.

One last point. Baker College should adopt a master plan. In other words, Baker College must look around and find out what is going on in the surrounding area that affects its future. It should look at the statewide educational program rather than just Baker College's own unique function within the state.

That, I think, is about it.

APPENDIX A

-CASE STUDY-

KINGSTON COLLEGE
Private Four-Year College

Discussion of this case was led by William Craig,
Dean of Men, Stanford University

Kingston College, founded shortly before the Civil War, is located in the city of Two Rivers, Illinois. Two Rivers, with a population of approximately 75,000, has grown from a background of agricultural and industrial activities. It is the largest city within a radius of 50 miles and continues to serve as the major marketing center for most of its rural inhabitants. The industries found here are of many types, small and large; the growth of new industries has abated in recent years. In the surrounding territory, Two Rivers is noted for its parks and playgrounds, for pleasant residential areas and numerous large homes and estates. Cultural activities, music, art and drama, are scheduled throughout each year and are generally judged to be above average in quality. Quite a number of these events are held on the Kingston campus. The campus is surrounded by a residential section of middle-class homes; some of these have been serving as rooming houses and student residences in the past two decades.

Town and gown relationships have been generally excellent over the years. In the fall of 1956 there was one incident which attracted some attention. Following a homecoming victory, a large body of students demonstrated through the major business district and then "crashed" one of the large theaters with the idea of getting a "show on the house" for the entire group. In gaining entrance to the theater there was some minor destruction of property. Two or three police officials became involved and one of the police was roughed up in the process. A protest to the college administration came from the theater management, a group of businessmen, and a number of irate citizens. An ensuing meeting between Chamber of Commerce representatives and some college officials resulted in an agreement regarding the prevention and the handling of future student demonstrations. Except for an occasional minor display of student enthusiasm, none of which has led to any serious difficulties, relationships between the community and the college have been at the level of peaceful coexistence. In actuality, there is a lack of any real communication between most of the Two Rivers citizenry and the majority of the college staff.

Most of the Kingston campus is located within a six-block area. The oldest building on the campus accommodates both administrative offices and classrooms. The library, built in the late 1920's, contains about the average supply of books for an institution of this size. There is one large men's residence hall and one large and one small women's residence. Among the newest buildings on the campus are a chapel-auditorium and a separate music building. Some of the buildings appear rather old and weatherbeaten. The college is not known for the beauty of its campus.

The college, in essence a liberal arts institution for the past 75 years, is affiliated with the Presbyterian Church. The relationship with the church has changed over the years and has been tenuous in the past two decades. However, several people on the board are members of the clergy in the Presbyterian Church, a number of other prominent members are active in the church as laymen, and some are recognized leaders in midwestern industries. Dr. Angus Shulman, president of the college, is 49 years of age and came to Kingston four years ago after a successful career as minister of a large metropolitan church.

The college is one of eight institutions in the Tri-State Conference, a relationship initiated in the 1920's largely for athletic purposes. Since then the college administrations have found other grounds for perpetuating and intensifying the work of the conference. All schools are accredited by the North Central Association and generally recognized as some of the better liberal arts colleges in the Mississippi Valley and in the Midwest. Within a 75-mile radius of the college there are a number of other institutions of higher education, including one large state public institution and four other private liberal arts colleges, one of which is also in the same conference.

The faculty, composed of 80 some members, is rather heterogeneous in training and background: a majority obtained their graduate degrees in midwestern universities; approximately a third have their doctorate degrees; 60 per cent have received their appointments since 1955; 30 per cent of the instructional staff have joined the faculty in the past two years; less than 20 per cent took their undergraduate degree at Kingston; and no more than 40 per cent are members of the Presbyterian Church.

The total enrollment at Kingston in recent years has varied between 750 and 850. The student body, with relatively few exceptions, is from the immediate Midwest. A little over 65 per cent of the entering student group comes from the state of Illinois, with 25 per cent (commuters) coming from the community of Two Rivers and another 20 per cent coming from a radius of 50 miles. About 20 per cent live in Chicago or nearby suburbs. The great majority of other students have their homes in the states of Wisconsin, Minnesota, Iowa and Indiana. A small number have their origin in the Northeast (5 per cent) and even fewer in the Far West (.5 per cent).

There is considerable variation in the religious background of the students with the largest numbers listing the Presbyterian, Congregational and Methodist demoninations. The next largest proportions come from Episcopal, Lutheran, Catholic, and Baptist backgrounds, in that order. A few students each year list the Christian Science, the Jewish, or the Unitarian faiths, and never more than three or four give any other single religious origin. Less than five per cent on this campus list no religious affiliation. Required chapel was dispensed with early in the 1950's, but all students need credit in two courses in the area of religion to meet graduation requirements.

The proportions of men and women in recent years have been approximately 55 and 45 per cent respectively, with a greater number of men represented in the commuters from the local community. Never more than 1 to 2 per cent enroll from an independent or private school background. The distribution of entrants by standing in their high school classes in recent years is about as follows:

First quarter	45 per cent
Second quarter	28 per cent
Third quarter	20 per cent
Fourth quarter	7 per cent

College Board Scholastic Aptitude Test (SAT) scores are required of all entering students. The mean scores are 490 for the Verbal test and 515 for Mathematical. Presently, five out of every six applicants are accepted for admission and three out of four actually enroll. Major considerations for admission include 15 units of high school work, only 4½ of which are restricted to English and social science. There are no definite prescriptions for natural science, mathematics or foreign language. Recommendations and SAT scores are other considerations.

The number of applicants and the size of enrollment has increased gradually in the past eight years, but the mean aptitude score has remained relatively stable. The source of students and the general type (background, interests, aspirations) has not changed noticeably in several decades, except for one thing. At one time, athletics were emphasized much more at Kingston, and the football and basketball teams were rated among the best in the state. The college had a well-known recruitment program for athletes from much of the Midwest. At that time, Kingston competed with a number of larger schools outside of the conference. A broad but somewhat de-emphasized inter-collegiate athletic program exists at the present time.

Differences among the entering student populations is one way in which the eight colleges in the Tri-State Conference vary. The type and size of communities in which they are located represent another obvious difference, while they appear to be rather similar in such things as the scope and emphasis of curricula and student-faculty ratio. The Kingston students would rank with the lower group of colleges in the conference from the standpoint of ability; the entering students in two colleges at the top of the eight have mean aptitude scores more than one-half standard deviation higher on both the Verbal and Mathematical tests. In these two colleges with the higher ability students, approximately 70 per cent come from the bottom two quarters. These same colleges are also somewhat more productive of graduates who later obtain their doctorate degree than is the case with Kingston graduates. The number from the latter institution, however, who go on to receive their Ph.D. degrees, is a little above the national average for four-year liberal arts colleges.

There are a small number of fraternities and sororities on campus, all of which are chapters of national organizations. (These organizations exist essentially for social reasons, with the students in only one fraternity exhibiting an above average interest in academic achievement. The personnel office staff report an increase in discipline problems in recent years. Drinking has been labeled as a real problem of late, also. Most of the discipline problems and a good deal of the drinking seem to be concentrated in four of the fraternities.) A fairly large number of independent men and women are active in the Independent Students Association, also a national organization. Beyond this, there are the usual societies and clubs found on most campuses organized around common interests of the participating individuals. The extracurricular program in music, art, drama, and publications appears to be rather extensive with the majority of students participating in one or more of the activities.

The stated purposes of this institution have remained much the same over the years. Though "dedicated to the proposition that its purpose may best be achieved through devotion to the liberal arts and sciences," the school also has a vocational orientation which is euphemistically expressed as preparation of young people to "cope intelligently, effectively and responsibly with the complex and changing conditions of life in modern society." A report in former years by an accrediting agency pointed out that this college seemed to stress specialized knowledge for vocational achievement. Some of the faculty continue to be disturbed by the age-old controversy of general education versus vocationalism, arguing against an over-emphasis on the latter in committees and faculty meetings. Apparently, administrators and leaders in this institution have been struggling with the problem, never having arrived at a clear-cut decision, whether their school should be basically a liberal arts college or an urban institution serving the general needs of the community.

The curriculum at Kingston gives emphasis to the liberal arts and the sciences. The course work available is somewhat greater in scope than other colleges with a similar program. Music is an area of particular strength, and as in a number of colleges of this type a separate degree is granted in this one area. Students are encouraged to combine some courses in music with other work in the liberal arts. The language department has also gained a reputation in the state. The educational program provides for advanced placement for freshmen with exceptional ability, for independent study for juniors and seniors who have received honors recognition and for special combinations of work with professional schools in law, medicine, engineering, and nursing. Two adjuncts to the regular educational program are the Evening College and the Summer Session. Though credits may be transferred to apply toward graduation, the two programs are separately administered.

Kingston also differs from most other institutions in the Tri-State Conference in the amount required for tuition and board and room fees; only one of the other eight colleges has current costs listed at the same relatively low level. The six other colleges have tuition rates which vary from $100 to $300 higher than the Kingston tuition. A variety of financial aids are available to the students through scholarships and grants-in-aid. Capable, needy students have no difficulty obtaining financial help, and special loan arrangements can be made for those not qualifying for scholarships and grants. Quite a large group of students also seek and find employment in the community besides those regularly employed on the campus.

The major educational officers in the college are the President, the dean of the college, the registrar, the dean of students, and the deans of men and women. Student advisement, especially from an academic standpoint, is a well-planned phase of the total program. An advisor is assigned to each student early in his freshman year and he serves as the student's principal counselor for two years. All course work is planned with the assistance of this staff member.

The work of the advisors is supplemented by the student personnel office staff. This group, responsible for supervision of student life and resident housing activities, also serves as a personal counseling staff. Their work is assisted by dormitory residents and upperclassmen, selected and trained, who serve as residence counselors. The personnel program is an active and functional one, seemingly more involved in student life and activity than is the case on many another campus.

Current situation

During the 1959-1960 school year President Shulman appointed an evaluation committee of administrators and faculty, asking them to spend the ensuing summer and school year in preparing a report for the faculty and the board. In brief, the committee has been asked to review the present status and recent "accomplishments" of the college and to consider the future of Kingston and the education of students at the college in the light of the expected conditions of the next decade. The President, together with the Education Policy Committee, was brought to this decision partly as a result of recently published analyses of higher education's role in a rapidly changing world. He has also become increasingly aware of the growing concern in the minds of faculty about

Kingston's rank on criteria of quality, especially as they compare their college to other colleges in the Tri-State Conference. Some other midwestern colleges have been seen as changing more rapidly and as surpassing Kingston in the last decade in the number and presumed quality of the students drawn. President Shulman has more recently been provoked by the expressed attitudes and sentiments of a small number of the younger, newer members of the teaching staff regarding inadequacies both of the local program and of the students who attend. Two of the humanities faculty have been very vocal in stating that the college admits students who should not be in college, arguing that many have poor preparation in Math and English and should be screened out. The latter development has created some minor difficulties, both among individuals and departments, and has not helped with staff morale in the past two years. The culmination of all this is the temporary committee which is being asked to "diagnose" the school in current and recent historical context and to bring forth recommendations which might be basic to new policy and plans for the future. Members of the faculty (9 months appointment) are receiving six weeks' summer salary in compensation for their efforts, and have been asked to refrain from any other commitments for at least those six weeks.

The memorandum from the President to the committee chairman and members listed both areas of concern and problems for the group's "diligent and concentrated consideration." The following are a few excerpts from the memorandum.

> 1. Kingston College, undoubtedly not unlike many others, has been described as a static institution in a changing world situation. We have been accused of not preparing to move with the times. More specifically, some of our own colleagues are apprehensive about our readiness to select from the much larger number of students who will be applying in the years to come and also about an increasing number that can optionally be accommodated with the present limited plans and budget for increased facilities. It is likely that in a very few years we will have ten applicants for every vacancy. Is growth in numbers a valid or any criteria of progress? Should we expand? Should we gear our college program to a doubled enrollment? What type of students would we get under such a circumstance?
>
> 2. In the light of a "new world" and the new and increasing demands upon the citizens living in it, and in light of what we as academicians expect from the graduates of our college, I ask you to give your most serious attention to (a) the content of our curriculum with the possibility that it may need restructuring and require different emphases from the one to which we are accustomed, in order to prepare students for life and problems that cannot be fully assessed in the present, and (b) to educational procedures, to the conditions of effective teaching, to the creative use of "free" time, and to investigating what factors make for more effective communities of learning.

3. In my few years with the institution, I have become somewhat concerned about our educational accomplishments and our services to the general community in the light of Kingston's objectives and the major purposes of our program. We have been informed of the inability of this college to define its role. I will increase the assignments of this committee unduly by asking you to consider once again the question: "What kind of college should we be?" However, I doubt that you can deal with any of the other issues I have raised without very serious attention to functional objectives. Can we continue to serve, directly or indirectly, Two Rivers and the surrounding community, attempting to meet the needs of its citizens as an urban institution, and still do justice to the development and education of the young people who represent our major student body? Can we successfully fulfill the two roles? Should we seek to provide more of the cultural leadership and intellectual atmosphere, which go hand in hand with the true liberal arts college, and forego some of the aspects of our program which some of the faculty have referred to as "service enterprises"?

4. Again judging by comments from some on the staff and taking a cue from some writings on students and their attitudes in recent years, it seems that we have not fully considered the person to be educated. Some of the staff have commented about the limitations of our own student clientele, suggesting that those who enroll here are not of the caliber, in various senses, of those in many another liberal arts college. A few have suggested that we establish an image of the "ideal" student for a program such as ours and recruit only such students. Certainly we are already restrictive in our admissions policy. To what extent should we become more so? On what basis should we decide to do so? How does a changed policy of recruitment and selection fit with the objectives of the college? This seems to me to be an area of confusion and limited knowledge. I ask you to also give time to the Kingston student: who is he and who should he be? Please help clarify the picture for all of us regarding such major considerations.

All of these problems concern the students at Kingston, and it is with them that we should be most concerned. They are the raw material of our labors and, someday, will be the finished product for which we will be partially responsible.

The problems I have outlined above cannot be solved by conjecture. We need facts, data, information. Nor will these alone settle the issues before us. But they will give us a sound foundation from which to start. Therefore, I would request that you attempt to define, among other things, a program of self-study research on students and matters bearing on their welfare and education which Kingston might follow in the coming years.

-RESEARCH REPORT-

KINGSTON COLLEGE

This report was given by Mary Laing Swift,
Dean of Women, Occidental College

You know, it's often said that it takes about ten years to make a really good alumnus of any college; (alumni boards of directors deplore this fact). I think it is much to the credit of the Institute that in one short morning about twenty loyal alumni of Kingston College were created; working alumni we are, and our loyalty is going to be demonstrated to you in a few minutes. If variety is the spice of life, I would say we had quite a peppery session on Kingston College this morning, with variety displayed in a good many ways.

For instance, one of our groups characterized Kingston as "Sick, Sick, Sick." Another group called it "Mediocre with a large M," and some of the rest of us were inclined to believe that it was fairly average. Our variety also extended to our method of examination. You remember that President Shulman issued a charge to explore certain problems. Some in our group systematically and carefully took his charge to pieces, step by step. Another group tossed it out the window and created their own ten-year plan. Therefore, for me to give you a composite view is not easy; but we did have some areas of agreement.

We agreed that President Shulman had vaguely and rather unimaginatively put his finger on some of the problems facing his college, that he had not seen it as a whole, and that he had neglected three problems which we felt were of importance.

First, he had not asked for any specific delineation of the objectives of the college--What are its principle targets? Secondly, he had not assessed nor asked for an assessment of the financial situation. We all know that the budget is very directly related to faculty, to salaries, to facilities--to the whole educational program--and we felt that it might be very much a source of trouble on this particular campus. Third, he had not suggested the involvement of certain groups in this college self study. It was our feeling that members of the board of trustees, of the alumni, of the church (since this is a Presbyterian-related college), of certain community leaders, and of students should be invited to consider the future of Kingston. It was our feeling that if these groups were involved in planning, they would have a concern for and understanding of the changes which we thought were inevitable. Far better that battles take place during the making of a master plan than that a solution be presented to a wary audience as a fait accompli.

We agreed that there was need for a series of studies of the present situation on the campus, then a very careful evaluation of them and finally, submission of recommendations for change to the President and, eventually, to the board of trustees.

What kinds of studies? We need many on the current student group: a yearly study of enrollment; the number of men and women; the geographical distribution; the high school feeders; the socio-economic backgrounds; the religious backgrounds; and, of course, grade point averages and SAT scores; and changes in the student body to be expected from alterations in the selection procedure.

It was also our feeling that a study of those students who were denied admission would be fruitful; it would be particularly valuable to know the colleges in which they were accepted--that information is not always easy to acquire, however. A study of the reasons for dropouts would be extremely important each semester by sex, for each period in each year, including an analysis of where these students went. A trend study on majors would be valuable: the selection of major fields when they entered, and the changes made during a four-year period. A trend study on graduates certainly is needed: their majors at graduation, the number attending graduate schools, and which particular graduate schools they attended; also, the number receiving graduate fellowships or some sort of aid in their graduate program and, of course, their records during their attendance at graduate school.

A trend study (and we said trend because we were not skilled enough to determine over how long a period we felt this should be carried forward, whether it be two years, three, four, or five) of student activities on this campus--the number of activities and the types of students who participate--would be worthwhile. Of course, we have all felt the need (and after this conference it would be strange if we didn't) for a thorough-going study of student attitudes.

In addition, we urge a study of the feeder high school students' attitudes about Kingston, to get some idea of what image of Kingston College they hold. Also, it would be valuable to determine how the high school counselors view Kingston; after all, they are very influential.

On the campus, certainly, there is need for a study of faculty attitudes, because in this particular college there is a question as to whether the college should be more academic in its orientation or more vocational. Studies of faculty might reveal their wishes in these areas, their goals, and what they think is possible.

Then, we wanted to leave our ivy-covered towers (and the description indicated that they were not too attractive anyway) and step out into our community, because this college is one of eight which forms a tri-state league. We felt that a multi-institutional study including all eight of these colleges might be very valuable, because the other colleges, without question, have influenced ours.

We had some pragmatists, fortunately, along with the daydreamers in our group, who said let's take what we have at hand and see what we might do here and now, without waiting for the results of a four- or five- or ten-year study.

It was suggested that perhaps some well-directed bull sessions among students might set some sparks afire and give them some appreciation of the pursuit of excellence and the excitement of it. Another suggestion was that we create an honors program on a moderate scale which might spread out and catch fire. The realists felt that with some beginning improvements on the campus it might be possible to go to the community and ask for additional funds for endowments which immediately would be reflected in better faculty salaries and a more stimulating faculty.

As you see, we are suggesting essentially three steps--a series of status studies of the current college; careful study and organization of these; and then, on the basis of these studies, recommendations for changes.

APPENDIX B

Why, What, and How Considerations for Research on College Students

Paul Heist and George Yonge

The ideas, questions and suggestions to follow emerged from the Institute papers, presented in this publication, and from the discussions among the Institute staff and participants. Though the program was essentially intended as an *introduction* to several research considerations and to meaningful ways of studying students, it was inevitable that many of the institutional representatives present at the meetings sought more than new perspectives. The participants' questions definitely indicated this. A review of the evaluation reports would probably substantiate that some individuals wanted to discover how the reported findings were obtained, how similar procedures could be instituted on specific campuses, and what the practical applications were for the selection and education of students in their colleges. Such concerns are not readily resolved. Further, the fact that the several papers with a research basis raised questions rather than directing attention to details of conducting research may in part be based on the present stage of research on students. Although the historical precedents for *longitudinal* research on students go back at least two decades, we are still largely on the frontier.

I. What important questions should college staffs ask and what should they understand about their students to implement their education, their development, and their future?

Since grades are essentially a universal criterion for achievement or success in college, studies on the improvement of grade prediction, at times with the idea of leading to better selection, have been the chief from of research on students in higher education. Noteworthy research projects more generally conceived, especially research going *beyond* the classroom, have been so minimal that one could tabulate them on the fingers of two hands. Examples of steps in the "right" direction are investigations of benefits derived from certain coursework, from various methods of teaching or ways of structuring classes, from specific programs as represented by individual and group counseling, and follow-up studies of the withdrawal problem. Such studies have resulted in some excellent research.

However, research of this kind is rarely organized or integrated in an institutional program so that it may aid in the establishment of educational policy, program changes and new curricular developments. With even greater rarity do colleges attempt to study and analyze what actually happens to students during the two or more years of college. In essence, relatively little attention is being given to gaining broad understanding about student life, to evaluating the educational and growth processes, or to analyzing the major changes occuring in individuals during two or more college years.

The type of investigations and the research orientation to higher education proposed by most speakers at the WICHE-CSHE Institute were based on several premises which are relevant to the preceding question and those to follow. These premises were never explicitly stated by either the speakers or the individuals who arranged the Institute program; their inclusion here may complete the foundation for the questions and considerations to follow.

The premises:

(1) Students graduating (and those withdrawing, to a lesser degree) from an institution are products of:

  (a) pre-college environments and experiences, and

  (b) the predominant college peer culture and sub-cultures, and

  (c) the academic and general impact of the institution *per se*.

(2) There is a strong probability that the pre-college experience and the peer influences, (a) and (b) under (1), are major determinants of the thinking and behavior of the graduating student and more potent than the institutional impact (c) in many (most) institutions, and

(3) "Facts" (such as knowledge of the above) are essential to the successful maintenance and improvement of an institution and the educational process.

With these reflections in mind, the questions to be raised now regarding the kind of noteworthy research that will extend beyond the classroom may take on greater significance. Specifically:

1. What are the backgrounds (e.g., socioeconomic, ethnic, religious) of the majority of individual students and of subgroups (clubs, fraternities, etc.) on the campus? What are the implications of such "facts" for student life, activities and effective education? To what extent do they determine the academic and social "climate" on the campus?

2. What are the basic or guiding values and attitudes of the majority of students and of predominant subgroups on the campus? How do these attitudes relate to academic behavior and to social life? Which student subgroups promote and which inhibit the educational process and academic activity?

3. What is the degree of academic motivation or the degree of commitment to learning for the majority of students and subgroups of students?

4. How do students' academic aspirations (e.g., desire to attend graduate school) relate to the various characteristics and background factors?

5. Do any of the students' manifested values and attitudes undergo modification during college? What important changes do occur? Are such developments related to the specific objectives of the institution? Are they related to particular courses, patterns of courses, or major fields? Are they related to students' affiliations or to membership in certain subgroups?

6. What values, attitudes and personality characteristics differentiate between students who drop out and those who persist and earn a degree? Are there any implications deriving from such findings which present a basis for trying to hold withdrawals with adequate ability?

7. What characteristics of students on particular campuses differentiate achievers from non-achievers?

8. What student characteristics are related to degree of classroom participation?

9. Do faculty-student similarities in measured characteristics have any relationship to choice of major? Academic persistence? Academic aspirations?

10. What are the major sources of influence upon students? Do the influences derive from faculty? Student peers? Specific campus practices or a pervading cultural milieu? How are the influences exerted?

11. What are the relationships between major characteristics of students on the campus and the record of the graduates? What are the roles and contributions, and what is the degree of "intellectual" behavior, of the graduates five and ten years hence?

II. What policy and research considerations are important for institutions to consider?

Numerous colleges and universities have collected varying amounts of data on their entering students for years, through the offices of registrars and directors of admission; much of this information is filed, and some is incorporated in rather extensive descriptive reports. In some colleges with comprehensive personnel programs, test and achievement data are frequently employed also for advising and counseling purposes. Through such information a nucleus for research is already available on many campuses; however, its availability is in no way a sine qua non for conducting research, nor should it be.

Any research on students should have its foundation in both educational policy and in a policy regarding research. There will be little justification for a research program unless it aids meaningful examination of pertinent questions, relative to specific objectives in a particular institutional setting, or unless it leads to greater general understanding of students. To complete these precautionary statements, attention should be called to some real disadvantages of conducting studies merely because data are available. Although information stored in files may lend itself to the investigation of some important questions, it also is frequently too inadequate or improperly collected to permit a defensible, experimental or empirical approach.

Administrators and faculty members interested in obtaining added knowledge about students and their development and education might profitably give their attention first to some rather comprehensive questions related to the philosophy and educational policy of their institution, and to educational philosophy and goals in general. Attention to some of the following would generally precede consideration of the questions under section I.

1. What are the attitudes of administrators, faculty and students toward existing educational programs, procedures and methods? To what extent is evaluation and appraisal of the existing institution and its education of students an established aspect of the total program? To what extent is the "success" of the institution under continuous study and evaluation?

2. Should the various stated objectives of the institution be considered as supplementary criteria by which to judge and evaluate students' gains and attainments?

3. What measurable student characteristics, developments, and changes are related to institutional objectives? Can they be considered as indicators of growth and positive change?

or as an alternative consideration to No. 2 and 3

4. How many institutions improve, enhance and objectify the measurement of academic achievement in terms of gained knowledge and skills? How may the diverse characteristics of students be related to this measurement?

III. What procedural considerations underlie the kind of research implied in the questions listed in sections I and II?

Sections I and II pose several types of questions. Some of these questions are not amenable to research in the sense of finding the right answer; the answers are necessarily colored by the values, attitudes and opinions of those considering them. Essentially, these values and attitudes are the answers or represent the findings. Questions of this sort are usually approached through a questionnaire survey or checklist procedure which attempts to sample the frequency of occurrence of certain attitudes and opinions. Once these attitudes and opinions are surveyed they are then easily made public in the sense of being available for discussion, debate and perhaps modification. Although these particular questions suggest interesting areas of research, and answers to them would serve as guides to more specific research questions for an institution, the present section is concerned with the methods of investigating questions about measurable attributes of various student groups.

Investigators desiring to assess aspects of their program as they relate to attributes of students or groups of students should (1) formulate specific, relevant questions, (2) determine what data about what dimensions (measured characteristics) will aid in answering such questions, (3) select or develop reliable and valid procedures for assessing these dimensions, and (4) use an experimental design which will furnish the least ambiguous results.

Once the basic questions and measuring devices have been determined, researchers are still beset by numerous difficulties. These are often considered under the rubric of "experimental design." The design refers to the methods used to answer the questions from data which are minimally confounded by irrelevant factors. For example, if an investigator wishes to study the relationship between socioeconomic background and achievement, the factor of scholastic aptitude should be controlled or held constant. Since aptitude or general ability is related to achievement and socioeconomic background, the results will be ambiguous unless the irrelevant factor (in this case, aptitude) are taken into account or controlled. Suppose a relationship is found to exist between a measure of socioeconomic status and school achievement. Unless aptitude is held constant, the investigator will not know whether socioeconomic status or aptitude is the important factor. Statistical procedures such as partial correlation and matching techniques permit the cancellation of the effects of aptitude. Unfortunately, one often does not know all of the relevant contaminating factors which should be taken into account; hence, in the above instance one can never be certain that the results are due to socioeconomic status--only the likelihood of a relationship can be ascertained. It is easier to determine what variables are not important to the relationship than what variables are.

The above discussion centers on an instance where a researcher is studying the relationship between two factors without experimentally manipulating either of them. Experimental manipulation merely means that similar groups are given differential treatment (different instructional methods, experiences, etc.) of some sort in which the investigator is interested.

A procedure which takes into account the influence of irrelevant factors is one in which groups can be constructed or set up by the investigator. For example, if a researcher wishes to compare two methods of teaching a course in Humanities with respect to their influence on certain values and attitudes, he can, by randomly assigning students to the two teaching methods or classes, obtain two groups that will essentially resemble each other. Any differences, following random assignment, will be a matter of chance and unimportant in the study. Such groups should be tested at the beginning to provide a baseline for estimating change and to check on the equivalence of the two samples. Then, changes in attitudes in favor of one group can more safely be attributed to teaching method since this is presumably the only source whereby group differences could arise. Since this design is too often not feasible, the best the researcher can do is to consider the nature of each factor of possible interest or influence and try to take account of all such possible contaminating factors save the one of major interest.

In designs in which one attempts to assess change, it is necessary to incorporate certain control groups, preferably two or more. One such control group should be tested and re-tested without the intervening experiences which one surmises might influence (attitude) scores. In this way, the investigator will be fairly assured that changes in scores are not attributable merely to the fact that the test was taken a second time.

Another important control group, especially desirable in assessing college impact upon student values, would be a comparable group of non-college-going peers. This control, of course, is almost impossible. The next best thing is to compare the changes of a particular group of students with changes in students attending other institutions. The greater the contrast between institutions, the clearer whatever trends which emerge. Again, irrelevant factors such as ability level or background must be taken into account here.

Sometimes within a college, contrasting groups can be used to furnish comparison data. For example, one can compare those who change markedly in such aspects as attitudes and values with those who remain seemingly unaffected by their college experiences. This can be done by comparing changers and non-changers across the student body or by comparing majors and peer groups such as clubs, fraternities and informal affiliations. The aim, of course, would be to find the factors facilitating or inhibiting change. If this can be done, and if the important factors are located within the school environment, perhaps the facilitating factors can be fostered and the hindering factors eliminated, depending on the nature of the changes and the institution's philosophies.

From the above discussion, a potential researcher may be even more confused about where to begin, especially since so few irrelevant, contaminating factors in the context in which he must work are known.. Preliminary studies can be used to uncover many influencing factors. If an investigator is interested in achievement, he may take a "shot gun" approach by giving a large array of tests and in this manner see which factors are related to achievement. Or he may look at the relationship between any one factor and achievement while controlling for other relevant factors. The success of this procedure is of course contingent upon the investigator's luck or shrewdness in including all or most of the relevant dimensions at the initial "shot gun" stage.

In short, then, there are some procedural and design problems which are inherent in the asking of most important research questions. An exception to the above is when the researcher wishes to obtain descriptive, identifying information on student bodies and subgroups rather than discover how such information is related to varying student behaviors. Any studies attempting to determine the traits or factors which relate to certain experiences or changes in behavior measured at two different points in time must take account of a few important and essential considerations if the findings are to be factual or significant. Most such considerations are matters of control--the holding of some irrelevant factors relatively constant or non-operative. The researcher must be aware of this and can perhaps resolve many of his difficulties through recourse to the consulting help of statisticians.

IV. What instruments and inventories have frequently been used in student research or lend themselves to such use?

The variety of tools and devices that may be used in research which is both psychological and sociological in nature is extensive and somewhat appalling. It would be easier to argue why many of these instruments should not be considered than it is to present the merits of the relatively few better ones. Research personnel about to decide on appropriate instruments would profit from reviewing the possibilities with trained professional people on their campuses. The choice of those included below is as much a matter of the frequency of use in studies of students to date as it is one of quality. The list is essentially illustrative and in no sense all-inclusive, even in the area of general personality assessment. The order of presentation is alphabetized according to the author(s) of the measuring device.

1. Allport, Gordon W., Vernon, P. L., and Lindzey, G., Study of Values, Boston: Houghton Mifflin Co., 1960 (Third edition).

   This instrument is an inventory of six prominent values or interest areas: theoretical, economic, aesthetic, social, political, and religious. It lends itself to fairly brief administration and permits inferences about some of the directional motivations of individuals. A wealth of comparative data is available on numerous student groups.

Although of real help in differentiating among students on factors assessing the degree of intellectual commitment vs. a practical, utilitarian orientation, there are serious disadvantages inherent in its use owing to the moderate reliability of some scales, the structured lack of independence among scales, and the problems of meaningful longitudinal measurement consequent upon the first two points.

2. Darley, John G., and McNamara, Walter J., The Minnesota Personality Scale, New York City: The Psychological Corporation, 1941.

   The MPS is an inventory of considerably more value in research than its frequency of use would indicate. It provides measures on five fairly independent scales of good reliability which are pertinent to emotional and social adjustment and orientations toward society and the economic situations. One or two scales may be seen as of particular research value where the entire inventory could not be included or would not be pertinent.

3. Edwards, Allen L., Edward's Personal Preference Schedule, New York: Psychological Corporation, 1957.

   This instrument provides numerous inter-related scales based on the need concepts of Henry Murray. The items are presented in forced-choice form to reduce the operation of the response sets of those taking the inventory. From a research standpoint, the paired-comparisons approach to every response is both a strength and a weakness. It has been used in research on large groups of professional students.

4. Evans, Catherine, and McConnell, T. R., The Minnesota T-S-E Introversion-Extroversion Inventory (Rev. ed.), Princeton: Educational Testing Service, 1957.

   This instrument is a rather brief, well-validated assessment device which has definite strength in the statistical independence of the three scales (thinking, social, emotional). All scales have relevance to research with college students. The thinking Introversion-Extroversion scale is a brief, single measure of a degree of commitment to intellectual activity.

5. Gough, Harrison G., The California Psychological Inventory, Palo Alto: Consulting Psychologists Press, Inc., 1957.

   The CPI is widely used as an instrument which appears to be particularly relevant where research on the social and emotional aspects of student behavior is of interest. The scales purportedly assessing academic motivation show limited power of differentiation among student groups. Although encompassing eighteen scales of moderate to fair reliability, the inventory is short enough to be administered within an hour's time.

6. McKinley, J. C., and Hathaway, S. R., The Minnesota Multiphasic Personality Inventory, (Rev. ed.), Group form, New York: Psychological Corporation, 1951.

   This is the most widely used personality inventory about which the greatest abundance of research data are available. It was developed and validated as a diagnostic tool for psychiatric purposes. Consequently, for differentiation among groups of "normal" students it is not particularly strong. The problems and weaknesses inherent in its original construction, resulting in only moderate reliability and validity on most scales, are such that it should be considered only as a supplementary instrument.

7. Myers, Isabel B., and Briggs, Katharine C., The Myers-Briggs Type Indicator, Princeton: *Educational Testing Service, 1957.*

   This inventory is a fairly recent research tool based on Jungian theory and concepts. Initial use indicates that it has genuine value in distinguishing among individual presenting varied cognitive and perceptual approaches to the environment. The composite of eight major scores apparently have value for identifying the potentially creative from the non-creative.

8. Stern, George, The Activities Index, Preliminary Manual, Syracuse: Syracuse University Research Institute, 1958.

   This index is an inventory of over 30 scales, groups of which are clustered to give scores indicative of several major personality "types." Although the individual scales are short and low in reliability, the composite dimensions (groups of scales) produce noteworthy differentiations among a great variety of student groups. One cluster (dimension) of scales measuring intellectual motivation is of particular interest for research in academic settings.

9. Stern, George, and Pace, Robert C., The College Characteristics Index, Preliminary Manual, Syracuse: Syracuse University Research Institute, 1958.

   This is an inventory which contains 30 scales (five factors) indicating how the pervasive institutional environment is perceived by the student. It is currently undergoing considerable revision and should prove to be a valuable supplementary tool for research on student cultures.

10. Strong, Edward H., *The Vocational Interest Blank*, Men, Revised, Palo Alto: Stanford University Press, 1951.

This instrument is a major counseling inventory that has become a valuable research tool. The inventory measures the degree to which a student's interests resemble those of people successful in over 40 different occupations. New developments coming from several different sources have led to utilization of profiles (based on major *patterns* of scale scores) for categorization of students. One such approach results in a distribution of categories based on fairly precise assessment of a student's "intellectual disposition."*

11. Webster, Harold, and Heist, Paul, *Construction of a Multiple Score Personality Test for Use with College Populations*, Research report for the Social Science Research Council, Center for the Study of Higher Education, Berkeley, 1959. (Mimeograph - in revision for publication).

This is a research instrument derived from the previous work of several major programs. It consists of approximately a dozen different scales of high reliability, many of which are intercorrelated dimensions. A major feature is the adequate measurement of characteristics which are pertinent to thinking and behavior in an academic environment.

In addition to the various types of psychological measuring instruments listed above, which in no way represent the full gamut available, there are a number of widely used measures of important personality syndromes, frequently used by themselves or along with other means of assessment. Chief among these are the following: The F-scale, Form 45/40 (*The Authoritarian Personality*, Adorno, *et al.*); *The Inventory of Beliefs*--also measuring authoritarian attitude(s) and "stereopathic" thinking (Form T, revised by Stern, G.; ACE); the Ethnocentrism Scale (*The Authoritarian Personality*, Adorno, *et al.*), The Dogmatism Scale (*The Open and Closed Mind*, Rokeach, Milton).

In addition to objective or standardized measuring tools, there is a great deal of questionnaire material, both in the way of single instruments (which as a rule serve no particular purpose as a unit) and countless items (questions and specific attitude statements). Most research men and research organizations are glad to share the contents of such survey instruments for the asking.

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*Weissman, M. P., *An Approach to the Assessment of Intellectual Disposition Among Selected High Ability Students*. Unpublished doctoral dissertation, University of California, 1958.

APPENDIX C

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